SERVICE MANUAL

(without price)

ELECTRONIC CASH REGISTER

200CR/PCR-360/PCR-365 (EX-245)
(WHC) (OSS)

240CR/PCR-460 (EX-246)

AUGUST 1996

Printer Model : M405R

CASIO®

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1. Features

The difference between 200CR and 240CR is as follows:

Function	200CR/PCR-360/PCR-365	240CR/PCR-460
POP display	Nil	Available
Stamp function	Nil	Available
Customer display	Available	Available
Power protection function	Nil	Nil
LED transaction	Nil	Available
EEPROM	Nil	Available (except PCR-460)
Calculator function	Available	Available

2. Specifications (200CR/PCR-360/PCR-365/240CR/PCR-460)

2-1. Electrical specifications

• Power consumption	In operation	(120 V) Max. 0.25A Min. 0.10A	(220 V) 0.13A 0.05A	(230 V) 0.13A 0.05A	(240 V) 0.13A 0.05A
	MODE SW off	0.10A	0.04A	0.04A	0.04A
• Memory protection	Back-up battery Back-up period Battery life	Mangan battery (UM-3 x 3 pcs.) 1 year (25°C) Replace the battery every year.			
• Clock & Calendar	Accuracy Auto calendar	Within ±30 sec. per month (25°C) Effective until 2099 A.D.			

2-2. Environmental specifications

• Operating temperature	0 ~ 40 °C
• Operating humidity	10 ~ 90 %
• Storage temperature	-25 ~ 65 °C
• Storage humidity	10 ~ 95 %
• Vibration strength	1.5 G (The machine must be in the carton box)

2-3. Principal components

• CPU	Name Number of control bit Internal RAM Internal ROM Main system clock Sub system clock	µPD78054GC-213-3B9 (200CR etc.) µPD78054GC-214-3B9 (240CR etc.) 8 1024 B 32 KB 5.00 MHz 32.768 KHz
• RAM	Name Capacity	LC3564S70/85/10 8 KB
	Name Capacity	CXK58257AP-70/10L 32 KB (PCR-460 only)
• Printer	Name Print method Print digit Printing speed MCBF Paper width Paper diameter Paper thickness Ink ribbon Ribbon life	M-405R Print wheel selective system 12 digits (Numeric : 10 digits Symbol : 2 digits) Approx. 3 lines/sec. 1,000,000 lines W 57.5 ± 0.5 mm 80 mm or less 0.06 ~ 0.085 mm RAP-01 50,000 lines
• Display	Name Number of digit	LED (HDSP-5621-G or HDSP-5621-H) 8 digits (LED x 4 pcs.)
• Power transformer	Name	TE-240-E4D (US, Canada) TE-240-E3U (Except US, Canada)
• Keyboard	Input system	2 keys roll over / 6 keys buffer memory
• Drawer	200CR PCR-360/PCR-365	DL-1320 for U.S. DL-2762 for Canada, other countries.
	240CR PCR-460	DL-1320 for US DL-1832 for Europe, other countries. DL-2762 for Europe, UK, Germany other countries.

2-4. Option

• Wet cover	Name	WT-73

3. Mac (Memory All Clear) operation

Procedure A

(1) Plug the power cord into an outlet.

(2) Pressing the FEED button and turn the mode switch to PRG position.

(3) Release the FEED button. After few seconds, MAC operation will be executed.

(4) The following receipt will be issued, if completed.

Procedure B

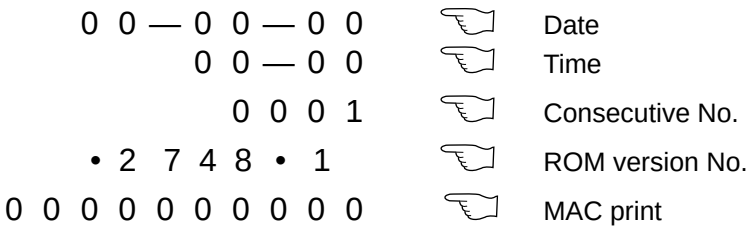
(1) Remove the power cord from AC outlet.

(2) Remove the memory protection batterey.

(3) Leave the machine for few minutes.

(4) Plug the power cord to AC outlet and then MAC operation is executed.

(5) Set the memory protection battery.



4. Diagnostic operation

4-1. How to start

(1) Plug the power cord into an outlet.

(2) Execute the MAC operation.

(3) Turn the mode switch to “PRG” position.

(4) Input 99990000 and press the sub total button.

(5) Start the diagnostic program and issues the following receipt.

Note : If you have done the registration after MAC operation, the Diagnostic program can not start.

```
00-00-00
00-00
0001
XXXX N1N2N3
99990000
```

XXXX : Version No.

N1 : 1 : Export (ADD:2)
2 : US
3 : Export (ADD:0)
5 : Canada
6 : Export (ADD:1)

N2 : Blank : Export

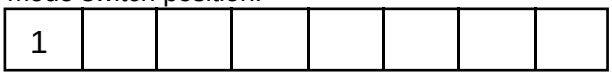
N3 : 0 : PCR-365

1 : PCR-360

Blank : Except Above model

4-2. Mode switch and PAD status display check

When the Clear key is pressed or changing the position of mode switch, the machine displays the mode switch position.



PAD3 condition

0	Open
1	Short

PCR-360 (WHC) is displayed "0".
PCR-365 (OSS) is displayed "1".
PCR-460/240CR is displayed "0".

PAD2 condition

0	Open: US
1	Short: Canada

PAD1 condition

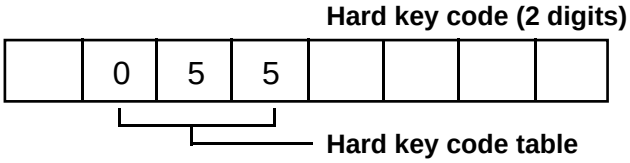
0	Open: US/Canada
1	Short: Except US/Canada

MODE SW position

1	PRG
2	RF
3	REG
4	CAL
5	X
6	Z
0	OFF

4-3. Hard key code check

When all keys except numerical keys, Clear key and FEED keys are pressed directly, the machine displays the hard key code as shown below.



Hard key code

						047	041	035	029	023	017
FEED	055	051	7	8	9	046	040	034	028	022	016
058	054	050	4	5	6	045	039	033	027	021	015
057	053	049	1	2	3	044	038	032	026	020	014
056	052	C	0	011	012	043	037	031	025	019	013

026, 020 are effected for ST.

4-4. Hard check function

Enter 1 digit from numeral key and press the sub total (ST), the following Hard check function will be executed.

(1) [1] + [ST] : Display, RAM, Drawer, Printer test
(2) [2] + [ST] : Print test
(3) [3] + [ST] : Read/Write test for EEPROM
(4) [4] + [ST] : Read test for EEPROM
(5) [5] + [ST] : RAM read test
(6) [7] + [ST] : Voltage check for memory protection battery
(7) [8] + [ST] : Print all characters
(8) [9] + [ST] : Display the time
(9) [6] + [ST] : Country code write to EEPROM

4-4-1. Display, RAM, drawer and printer check

Operation : [1] + [ST]

1) All segments turn on.

8.	8.	8.	8.	8.	8.	8.	8.

2) Date and time set.

Date : 31st December 1995
Time : 23 : 59 : 00 P.M.
Above conditions are automatically set on the machine.

3) RAM write and read check

The machine writes data into RAM and read out the data to compare with written data. When this check is finished correctly, the machine goes to check No. 4).
However, if an error is occurred, the machine sounds an error tone, prints the error receipt, and stops Hard check program.

Error receipt sample " — — — — — — — 2"

4) Drawer open check

5) Receipt issue

6) Test character print

1 2 3 4 5 6 7 8 9 0 CA TL

7) Test display

1 2 3 4 5 6. 7 8

Note : Decimal point on the display depends on the PAD condition.

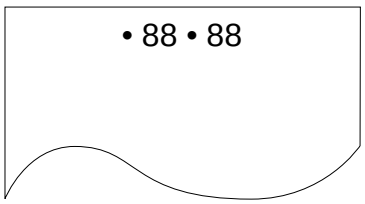
4-4-2. Print test

Operation : [2] + [ST]

Prints the following character continuously.

To stop this test, press any key or turn the mode switch to "OFF" position.

Print character



Printing speed
45 times / Min.

Note: In case press " [1] [2] + [ST] ", the following test is executed.

Printing speed: 25 times / Min.
Drawer open : 5 times / Min.
Stamp print: 5 times / Min.

4-4-3. Read/write test for EEPROM

Operation : [3] + [ST]

Execute the Read/write test in test area (1word) of EEPROM.

Note: This test is effected on 240CR only.

If an error is occurred, the machine sounds an error tone, prints " — — — — — — — 8" on receipt, and stops this test.

4-4-4. Read test for EEPROM

Operation : [4] + [ST]

The machine reads out the data to compare with written data until an error is occurred and brinks "—" on the display during this test.

Notes: This test is effected on 240CR only.

If an error is occurred, the machine sounds an error tone, prints " — — — — — — — 8" on receipt, and stops this test.

To stop this test, turn the Mode Switch to “OFF” position.

Be sure to execute the Read/write test for EEPROM (3+ST) before this test.

4-4-5. RAM read only check

Operation : [5] + [ST]

Note: Be sure to execute the RAM write and read check (1 + ST) before this check.

The machine reads out the data to compare with written data until an error is occurred and brinks " — " on the display during this check.

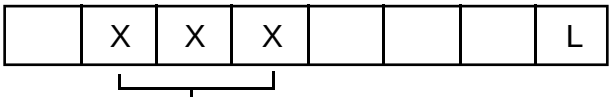
To stop this check, turn the mode switch to OFF position.

If an error is occurred, the machine sounds an error tone, prints " — — — — — — — 2" on the receipt, and stops this check.

4-4-6. Voltage check of memory back-up battery

Operation : [7] + [ST]

Display the voltage of back-up battery in real time. (Measurement is Volt (V) level.)
To stop this check, press any key or turn the mode switch to OFF position.



In case the voltage level is less than 3 V, display "L" here.

4-4-7. All characters print check

Operation : [8] + [ST]

0	0	0	0	0	0	0	0	0	0	CA	TL
1	1	1	1	1	1	1	1	1	1	CH	AT
2	2	2	2	2	2	2	2	2	2	RC	CK
3	3	3	3	3	3	3	3	3	3	PD	TA
4	4	4	4	4	4	4	4	4	4	NT	TX
5	5	5	5	5	5	5	5	5	5	ST	No
6	6	6	6	6	6	6	6	6	6	I	+
7	7	7	7	7	7	7	7	7	7	II	-
8	8	8	8	8	8	8	8	8	8	III	RF
9	9	9	9	9	9	9	9	9	9	CG	@
.	.	.	.	.	.	.	.	.	.	X✻	VD
-	-	-	-	-	-	-	-	-	-	Z%	#

Note: In case press " [1] [8] + [ST] ", prints all characters continuously.
To stop this test, turn the mode switch to "OFF" position.

4-4-8. Display the time

Operation : [9] + [ST]

The machine display the time.

To stop this check, press any key.

2 3 — 5 9 01 The time counts up.

4-4-9. Country code write

Operation : [X] [6] + [ST]

[X] : Country code

Erase the EEPROM and write the country code into EEPROM.

Note: This test is effected on 240CR only.

< Country code >

Code	Country
1	Export (ADD2)
2	U.S.(*)
3	Export (ADD0)
5	Canada(*)
6	Export (ADD1)
9	Erase only

(*): It is no effect because of no EEPROM .

Normal receipt

XXXX N1N2N3

XXXX : Version No.

N1 : 1 : Export (ADD2)
2 : U.S.
3 : Export (ADD0)
5 : Canada
6 : Export (ADD1)

N2 : Blank:Export

N3 : 0 : PCR-365(OSS)
1 : PCR-360(WHC)
Blank : Except the aboves.

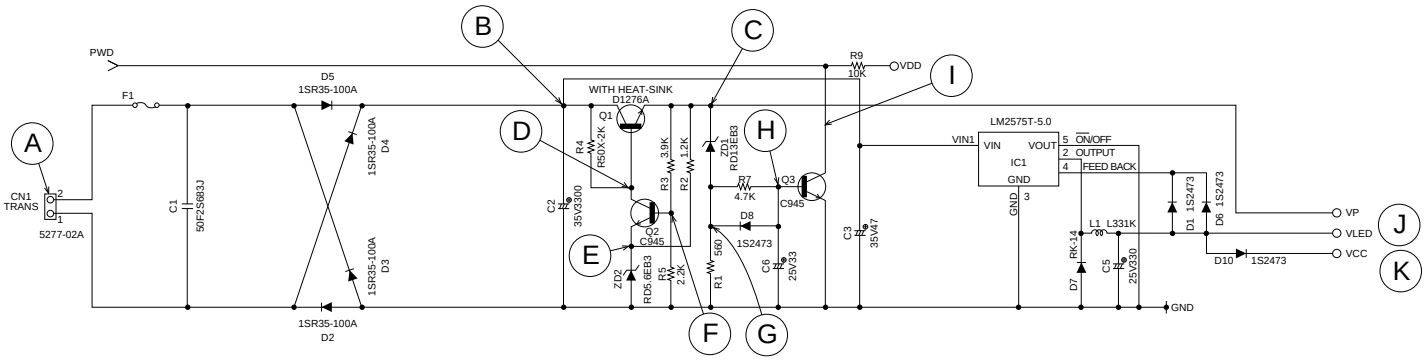
If an error is occurred, the machine sounds an eror tone, prints " — — — — — — — 8" on the receipt.

4-4-10. How to release the diagnostic mode

Make MAC operation.

5. Circuit explanation

5-1. Power supply circuit



Q1 : Transistor for controlling voltage (VP)

Q1 : Transistor for voltage detection

Q3 : Transistor for controlling power down (PWD) signal

ZD2 : Zenner diode for controlling base current of Q2

ZD1 : Zenner diode for detecting power down (PWD) signal

After plug the AC cord into the outlet, the 24 volts of AC voltage appears between T1 and T2. Then this voltage is rectified by the diode bridge and it become constant voltage through the capacitor C1.

[Voltage VP]

A constant voltage (17.9V) appears on the C point. This voltage made from the constant voltage circuit consist of transistor Q1 and Q2, zenner diode ZD2, resistor R2, R3, R4 and R5.

[Voltage VLED and VCC]

The voltage goes to 1 pin of regurator IC1 from B point and out from 2 pin of IC1 as stable voltage 5.5 volts. Then this voltage down to 5 volts through the diode.
It is used for VCC (for logic) and VLED (for display drive).
Also, it goes to 4 pin of IC1 and using to control the output voltage of 2 pin.
Capacitor C5 is used to reduce the ripple of this voltage.
Inductor L1 is used to stabilize the VCC voltage when the drawer opend.

[PWD signal]

After plug the AC cord into outlet, VP voltage appears on the base terminal of transistor Q3. When the VP exceeds 13 volts, Q3 is turned on by the differential voltage between base and emitter of Q3.

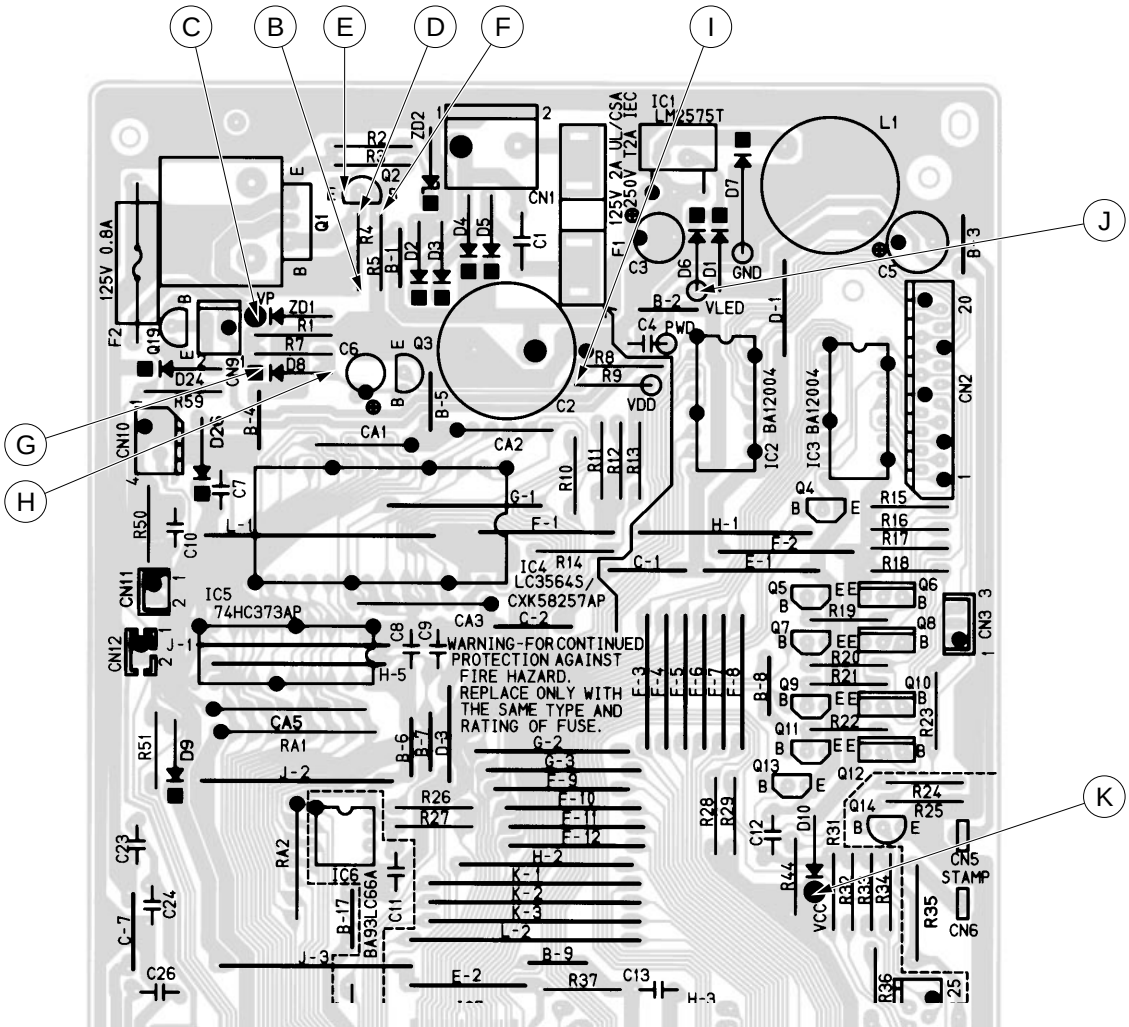
Then the PWD signal goes to GND level and informs "power on" to the CPU.
When the VP drops less than 13 volts, Q10 is turned off.
Then the PWD goes high level since the PWD is pulled up to VDD and makes the CPU go "Power failure process".

Note : During plug the AC cord into outlet, all voltages are supplied to the PCB.
If you open the machine for repair, make sure plug off.

[Voltage and check points in the power supply circuit]

Actual value on the E245-1 PCB [unit : V]

Check point	A	B	C	D	E	F	G	H	I	J	K
Power on	23.2 V (AC)	30	17.9	19	5.9	6.5	4.3	0.0	0	5.6	4.8



Voltage check position

5-2. CPU (μPD78054GC)

Pin No.	Signal	Description	In / Out	PW-ON level
1	P15	Head drive signal (HD1)	Out	Low
2	P16	Stamp drive signal (STAMP)	Out	Low
3	P17	Winder motor drive signal (WINDER)	Out	Low
4	AVss	Analong ground for A/D converter	—	GND
5	P130	Motor drive signal (MOTOR)	Out	Low
6	P131	Drawer drive signal (DRW)	Out	Low
7	AVREF1	Standard voltage for D/A converter (VDD)	—	5V
8	P70	Head drive signal (HD3)	Out	Low
9	P71	Head drive signal (HD4)	Out	Low
10	P72	Head drive signal (HD5)	Out	Low
11	P20	Head drive signal (HD6)	Out	Low
12	P21	Head drive signal (HD7)	Out	Low
13	P22	Head drive signal (HD8)	Out	Low
14	P23	Head drive signal (HD9)	Out	Low
15	P24	Head drive signal (HD10)	Out	Low
16	P25	Head drive signal (HD11)	Out	Low
17	P26	Head drive signal (HD12)	Out	Low
18	P27	Head drive signal (HD13)	Out	Low
19	P40	Address / Data bus (AD0)	In / Out	High
20	P41	Address / Data bus (AD1)	In / Out	High
21	P42	Address / Data bus (AD2)	In / Out	High
22	P43	Address / Data bus (AD3)	In / Out	High
23	P44	Address / Data bus (AD4)	In / Out	High
24	P45	Address / Data bus (AD5)	In / Out	High
25	P46	Address / Data bus (AD6)	In / Out	High
26	P47	Address / Data bus (AD7)	In / Out	High
27	P50	Address signal (A8)	Out	Low
28	P51	Address signal (A9)	Out	Low
29	P52	Address signal (A10)	Out	Low
30	P53	Address signal (A11) / Data signal from EEPROM (DO)	In / Out	Low
31	P54	Address signal (A12) / Data signal to EEPROM (DI)	Out	Low
32	P55	Address signal (A13) / Clock signal for EEPROM (SK)	Out	Low
33	VSS	Ground	—	GND
34	P56	Chip enable signal for EEPROM (EEPROM CE)	Out	Low
35	P57	Chip enable signal for RAM (RAM CE)	Out	High
36	P60	Key input signal (KI0)	In	High
37	P61	Key input signal (KI1)	In	High
38	P62	Key input signal (KI2)	In	High
39	P63	Key input signal (KI3)	In	High
40	P64	Read signal for RAM (RD)	Out	High
41	P65	Write signal for RAM (WR)	Out	High
42	P66	Key input signal (KI4)	In	High
43	P67	Address strobe signal (ASTB)	Out	Low
44	P30	Display segment signal (SEG1a) / Key common singnal (KC11)	Out	Pulse
45	P31	Display segment signal (SEG1b) / Key common singnal (KC10)	Out	Pulse
46	P32	Display segment signal (SEG1c) / Key common singnal (KC9)	Out	Pulse
47	P33	Display segment signal (SEG1d) / Key common singnal (KC8)	Out	Pulse
48	P34	Display segment signal (SEG1e) / Key common singnal (KC7)	Out	Pulse
49	P35	Display segment signal (SEG1f) / Key common singnal (KC6)	Out	Pulse
50	P36	Buzzer signal (BUZZ)	Out	Low
51	P37	Display segment signal (SEG1g)	Out	Low
52	P120	Display segment signal (SEG0a) / Key common singnal (KC5)	Out	Pulse
53	P121	Display segment signal (SEG0b) / Key common singnal (KC4)	Out	Pulse
54	P122	Display segment signal (SEG0c) / Key common singnal (KC3)	Out	Pulse

Pin No.	Signal	Description	In / Out	PW-ON level
55	P123	Display segment signal (SEG0d) / Key common singnal (KC2)	Out	Pulse
56	P124	Display segment signal (SEG0e) / Key common singnal (KC1)	Out	Pulse
57	P125	Display segment signal (SEG0f) / Key common singnal (KC0)	Out	Pulse
58	P126	Display segment signal (SEG0DP)	Out	Pulse
59	P127	Display segment signal (SEG0g)	Out	Low
60	RESET	Reset signal (RESET)	In	High
61	P00	Timing pulse from printer (TP)	In	High
62	P01	TAX switch (TAX-SW) / PAD condition signal (PAD2)	In	Low
63	P02	Power down signal (PWD)	In	Low
64	P03	Display common signal (DG1)	Out	Pulse
65	P04	Display common signal (DG2)	Out	Pulse
66	P05	Display common signal (DG3)	Out	Pulse
67	P06	Display common signal (DG4)	Out	Pulse
68	VDD	VDD terminal (VDD)	—	4.5 V
69	X1	Main system clock signal (5.00 MHz)	In	Pulse
70	X2	Main system clock signal (5.00 MHz)	In	Pulse
71	IC	Vss (GND)	—	GND
72	XT2	Sub system clock signal (32.768 kHz)	In	Pulse
73	XT1	Sub system clock signal (32.768 kHz)	In	Pulse
74	AVDD	Power for A/D converter (VDD)	—	5 V
75	AVREF0	Standard voltage for A/D converter (VCC)	—	5 V
76	P10	Low battery signal (LOW-BATT)	In	High
77	P11	Mode key condition signal (MODE)	In	2.4 V
78	P12	OFF signal of mode switch (OFF-MODE IN)	In	High
79	P13	PAD condition signal (PAD1)	In	Low
80	P14	Display segment signal (SEGTR) / PAD condition signal (PAD3)	In / Out	Pulse

Note : The "PW-on level" was measured under the following conditions.
Mode switch is REG position.

5-3. Mode key switch status read

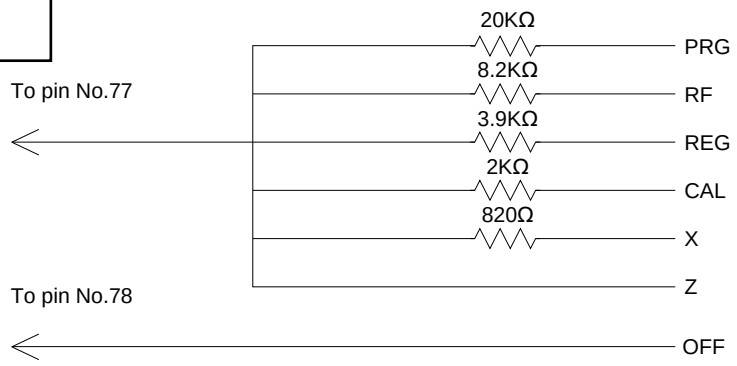
The CPU knows the mode swithc status by voltage level of 1 pin No. 77.
The voltage level is down by resistor. Each voltage is as shown bleow.

Voltage level (pin No. 77 of CPU)

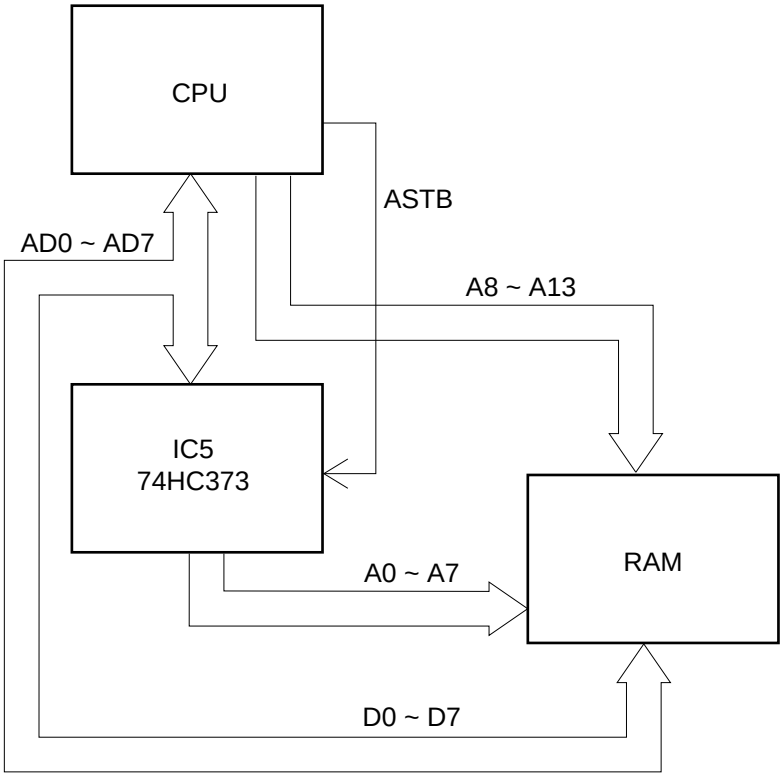
Mode	PRG	RF	REG	CAL	X	Z
Voltage (V)	4.0	3.3	2.4	1.7	0.9	0.1

Mode	OFF →	except OFF
Voltage	0	5

(pin No. 78 of CPU)



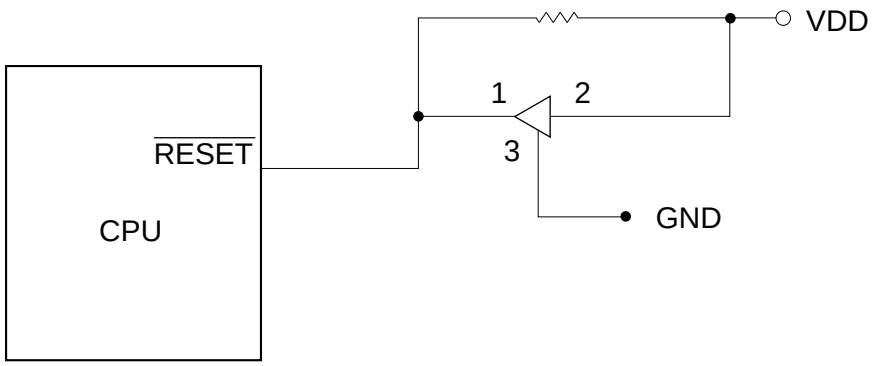
5-4. RAM address



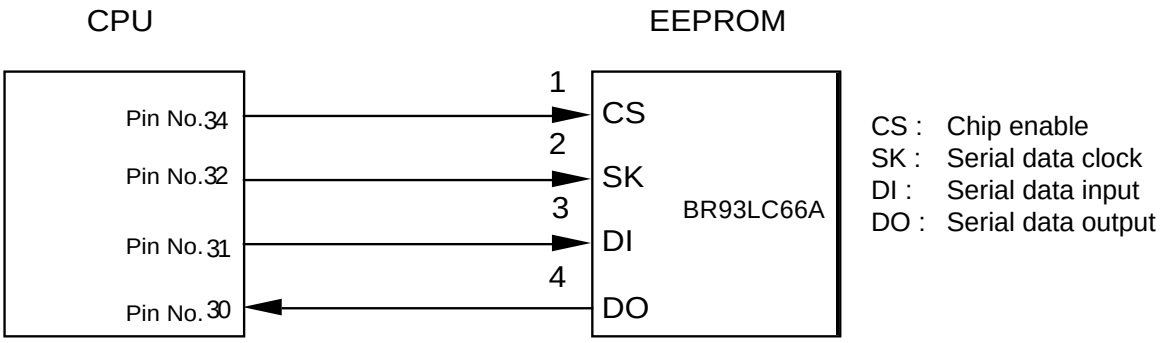
CPU is used port 40 ~ 47 (pin No. 19 ~ 26) for address/data bus.
CPU sends the address A0 ~ A13 to RAM through the IC5. To select the address A0 ~ A7, CPU send the address AD0 ~ AD7 to IC5. Then CPU sends ASTB (Latch enable) signal to IC5.
IC5 outputs the address A0 ~ A7 after receipt of ASTB signal.

5-5. Initialize IC (Reset IC)

When the voltage level on 60 pin of CPU is not stabilized, CPU doesn't work properly in rare case. Therefore, this machine uses the initialize IC for stabilizing the voltage.
Even the voltage level of VDD (2 pin) is changed, 1 pin of initialize IC outputs stabilized 5 volts.



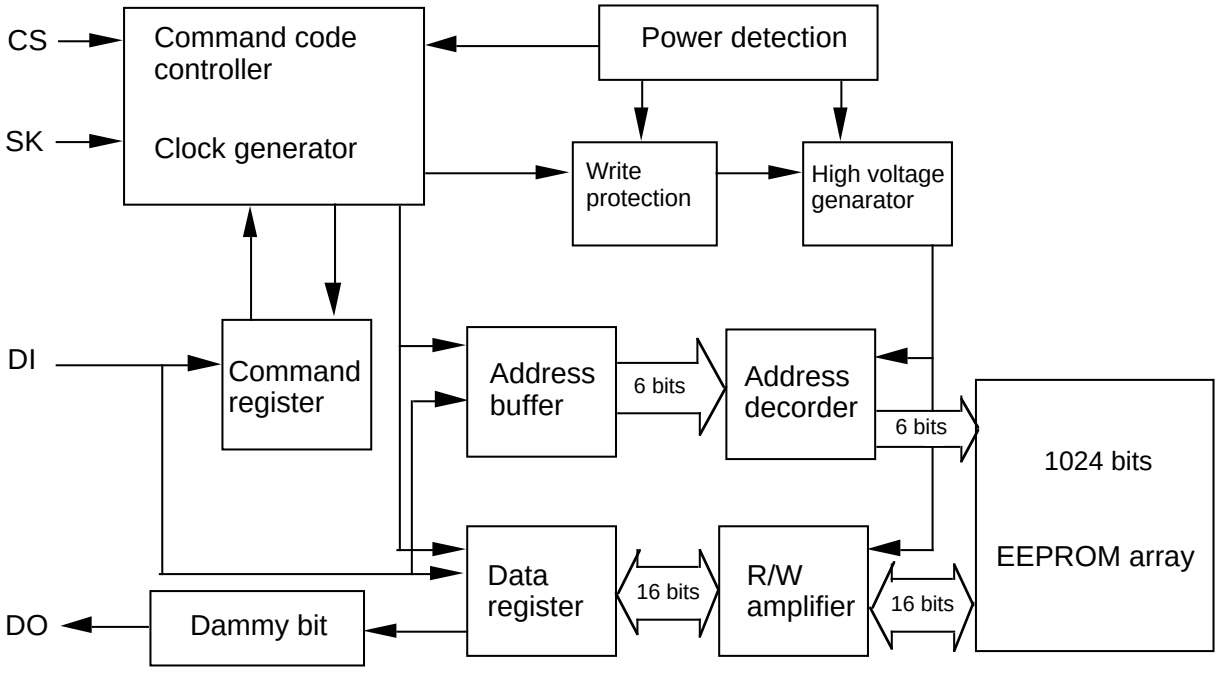
5-6. Data communication between CPU and EEPROM



EEPROM is a memory to possible write/erase by electricity .

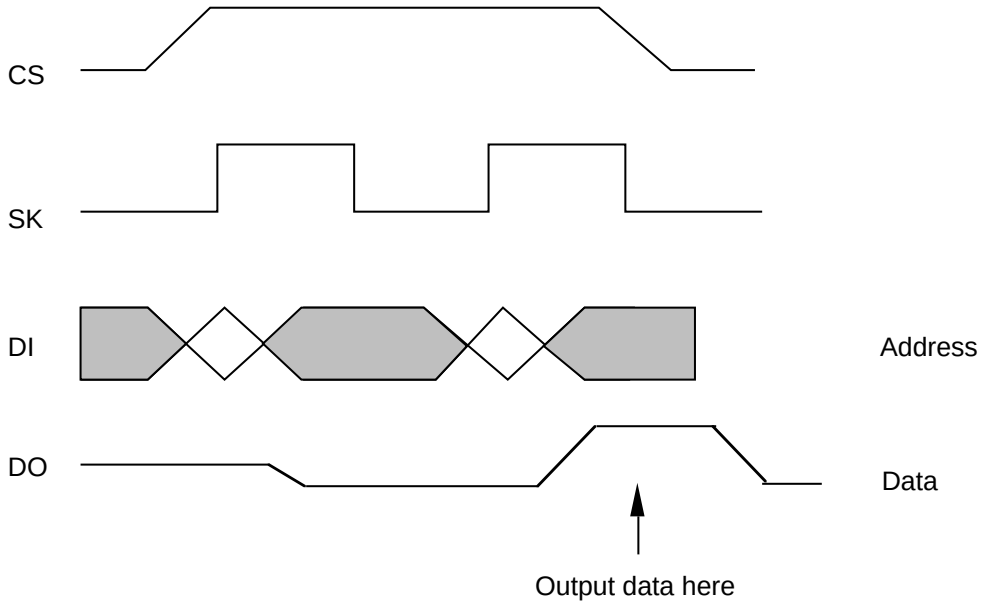
The BR93LC66A privides efficient nonvolatile read/write memory arranged as 64 registers of 16 bits each.

[Block diagram]



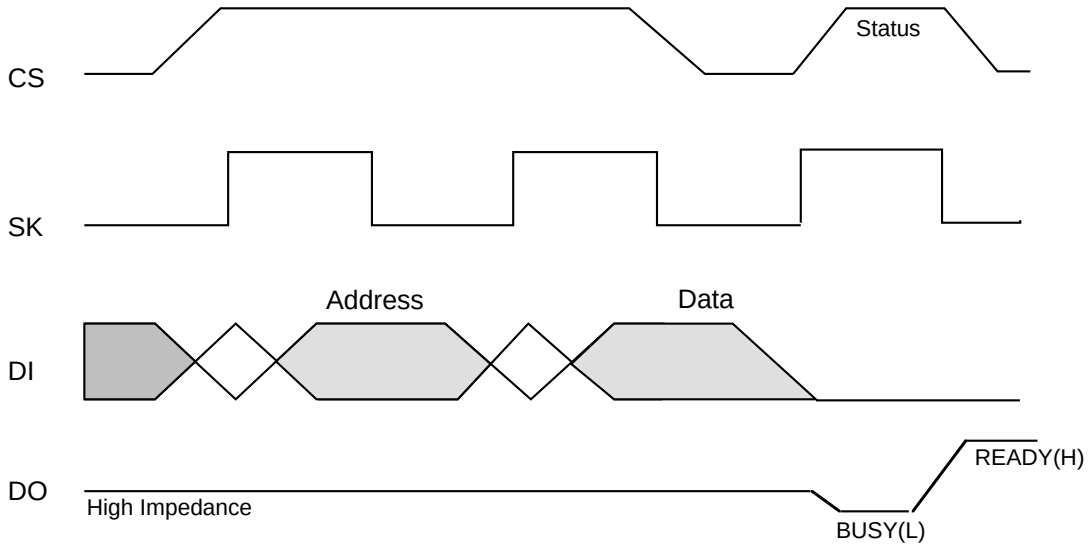
[Data reading procedure]

When the CPU read the dara of EEPROM, CPU send the CS signal and SK signal to EEPROM.
Then, CPU send the address to EEPROM, and then EEPROM send the data to CPU.



[Data writing procedure]

When the CPU save the data to EEPROM, CPU sends the CS and SK signal to EEPROM.
And CPU send the address and data to EEPROM from pin No.31.
When the EEPROM writes the data , EEPROM outputs the busy signal from DO terminal to CPU.
After finish writing, EEPROM outputs the ready signal from DO terminal to CPU.



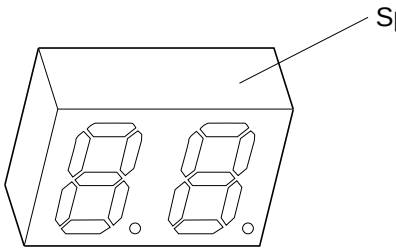
5-7. Notice of display LEDs

This machine is using display LED.

Specification of original LED is HDSP-5621#S202.

The following LEDs are interchangeable parts. However, its brightness is different.

If you replace it for repair, use the same specification.

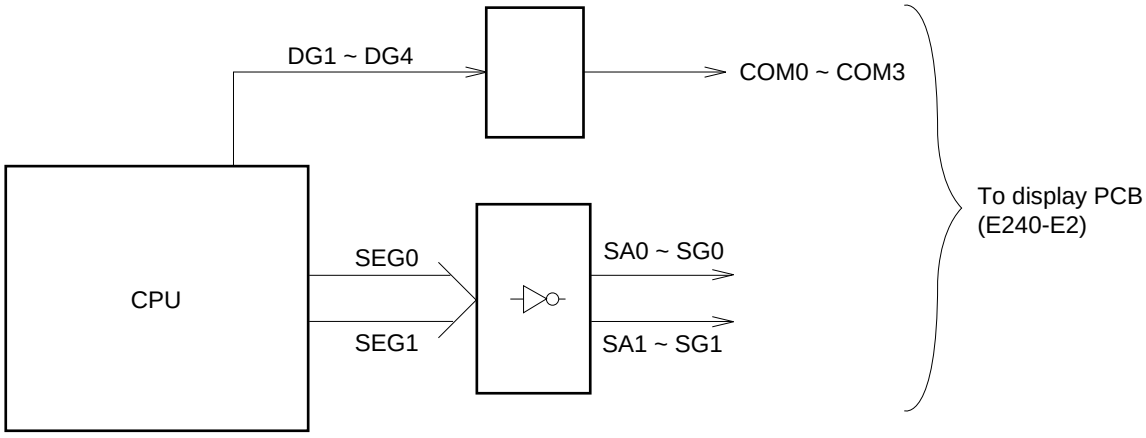


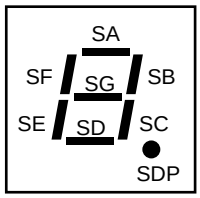
Specification	Parts Code
HDSP-5621#S02	2320 1365
HDSP-5621 hp029 H4	2320 1368
HDSP-5621 hp029 G4	2320 1367

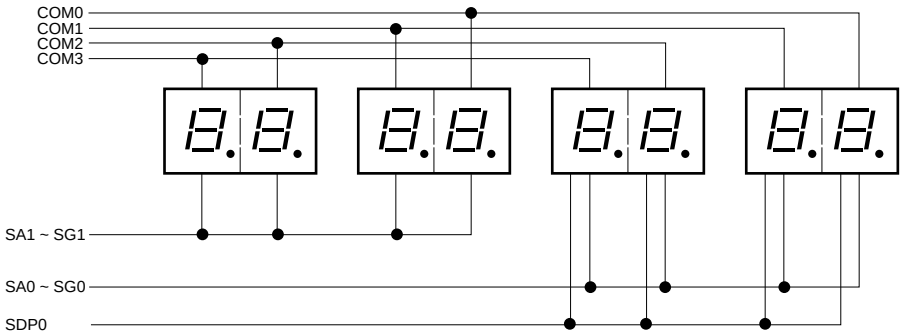
H type LED is a little bit brighter than G type.

Specification is written on the top of parts.

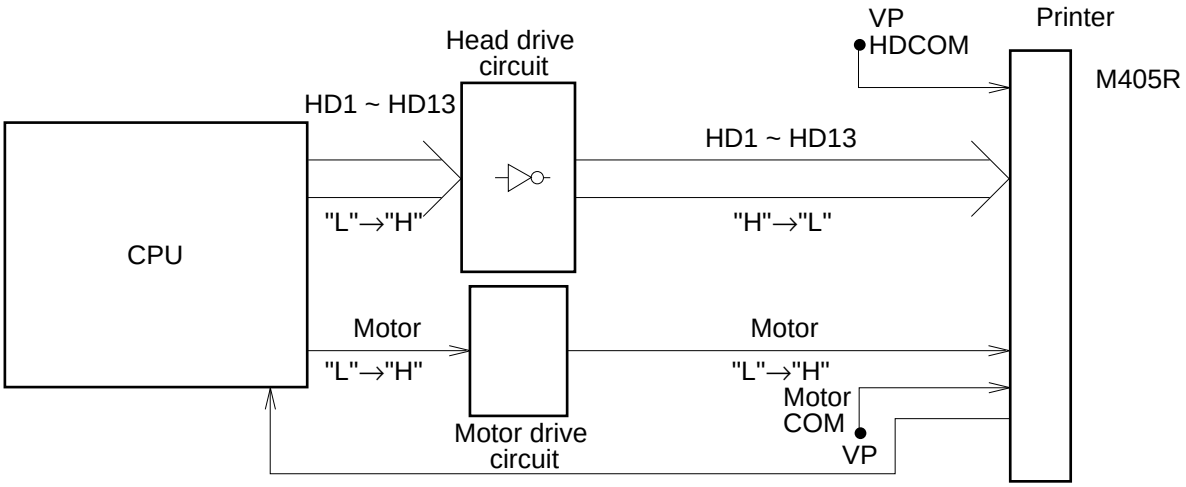
5-8. Display control circuit







5-9. Printer drive circuit

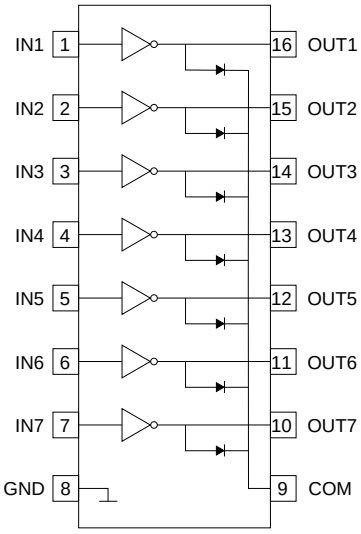


When CPU wants to rotate the mortor, CPU outputs “Motor” signal (L ➔ H), and Motor signal goes through the motor drive circuit and then it become “L”.Then Motor rotates because of difference voltage between Motor and Motor COM TERMINAL.

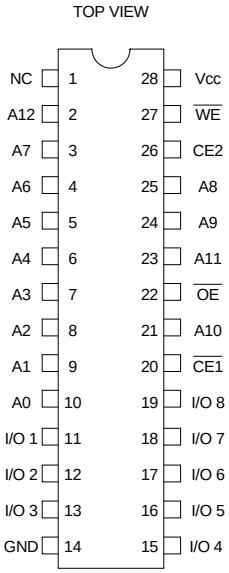
Head drive signal is same as Motor drive.

5-10. IC data

1. BA12001/BA12004

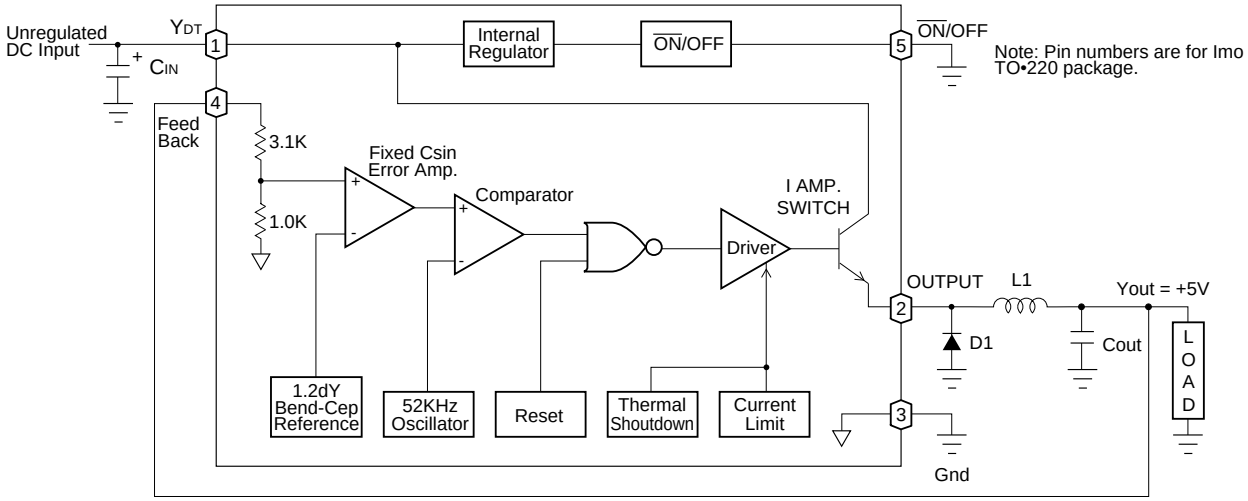


2. LC3654

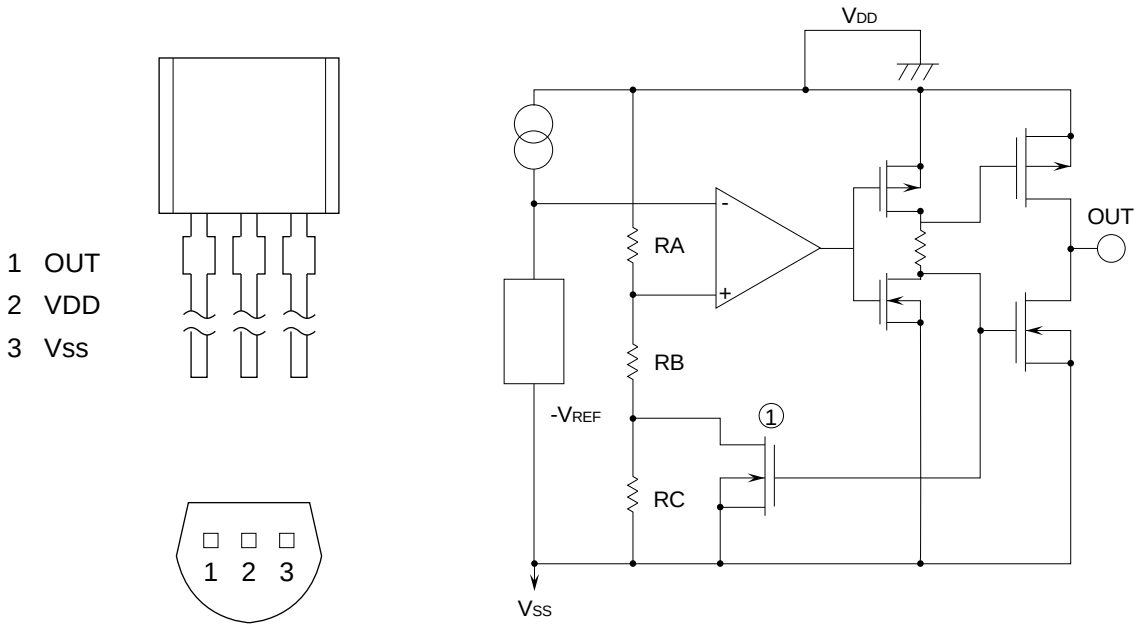


A0 ~ A12	:	Address
WE	:	Write enable
CE1	:	Chip enable 1
CE2	:	Chip enable 2
I/O1 ~ I/O8	:	Data
Vcc/GND	:	Power terminal

3. LM2575T-5. 0/LB03

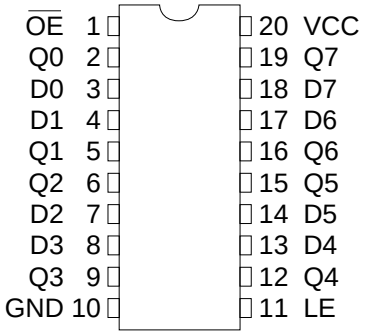


4. S80730AL



5. TC74HC373P

The TC74HC373 is a high speed CMOS OCTAL LATCH with 3-STATE OUTPUT fabricated with silicon gate C^2MOS technology.
This IC achieves the high speed operation similar to equivalent LSTTL while maintaining the CMOS low power dissipation.
These 8-bit D-type latches are controlled by a latch enable input (LE) and a output enable input ($\overline{OE}$).
While the LE input is held in high level, the Q outputs will follow the data input precisely or inversely.
When the LE is take low, the Q outputs will be latched precisely or inversely at the logic level of D input data.
While the $\overline{OE}$ input is at low level, the eight outputs will be in a normal logic state (high or low logic level) and while high level the outputs will be in a high impedance state.
An application designer has a choice of combination of inverting and non-inverting outputs, symmetrical and neighbouring input/output pin layout.
The three-state output configuration and the wide choise of outline will make the busorganized system simple.
All inputs are equipped with protection circuits against static discharge or transient excess voltage.



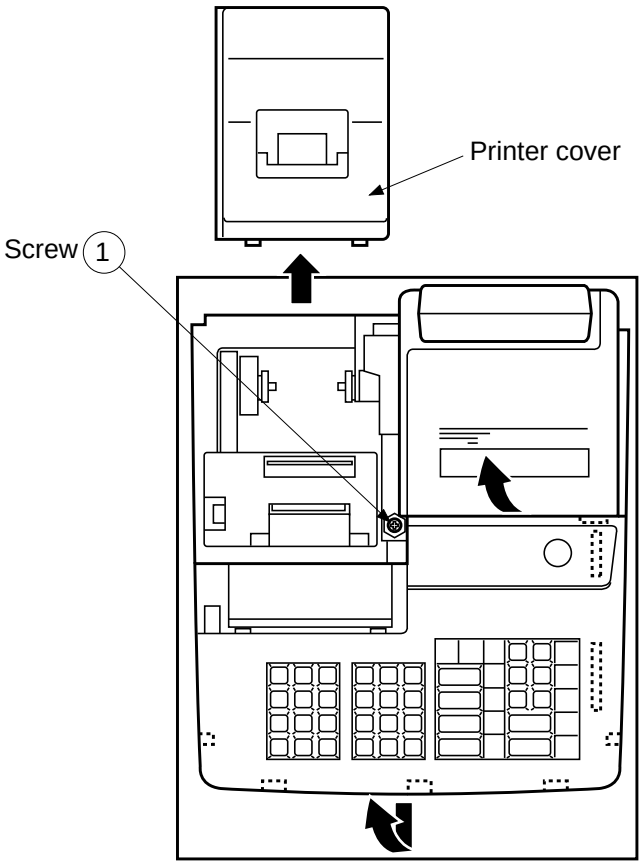
5-11. Error code

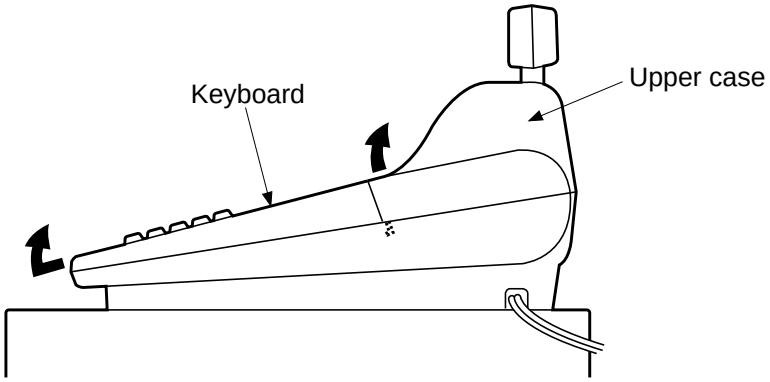
Error Code	Meaning	Action
E01	Mode Switch position changed before finalization.	Return the Mode Switch to its original setting and finalize the operation.
E08	Registration without entering a clerk number. This error appears only when the clerk control function is activated.	Enter a clerk number.
E31	Finalization of a transaction attempted without confirming the subtotal.	Press the [ST] key.
E33	Finalize operation attempted without entering amount tendered.	Enter the amount tendered.
E38	READ/RESET operation without declaring cash in drawer. This error appears only when this function is activated.	Perform money declaration.
E94	Printer error.	Turn the power off, and remove jammed paper from the printer.

6. How to open upper case

1. Remove the printer cover.
2. Remove the screw ①.
3. Slide the keyboard cover to arrow direction and pull it down to release the hooks 4 and then remove the keyboard cover.
4. Press the hock to display side and pull up the front and remove the upper case.

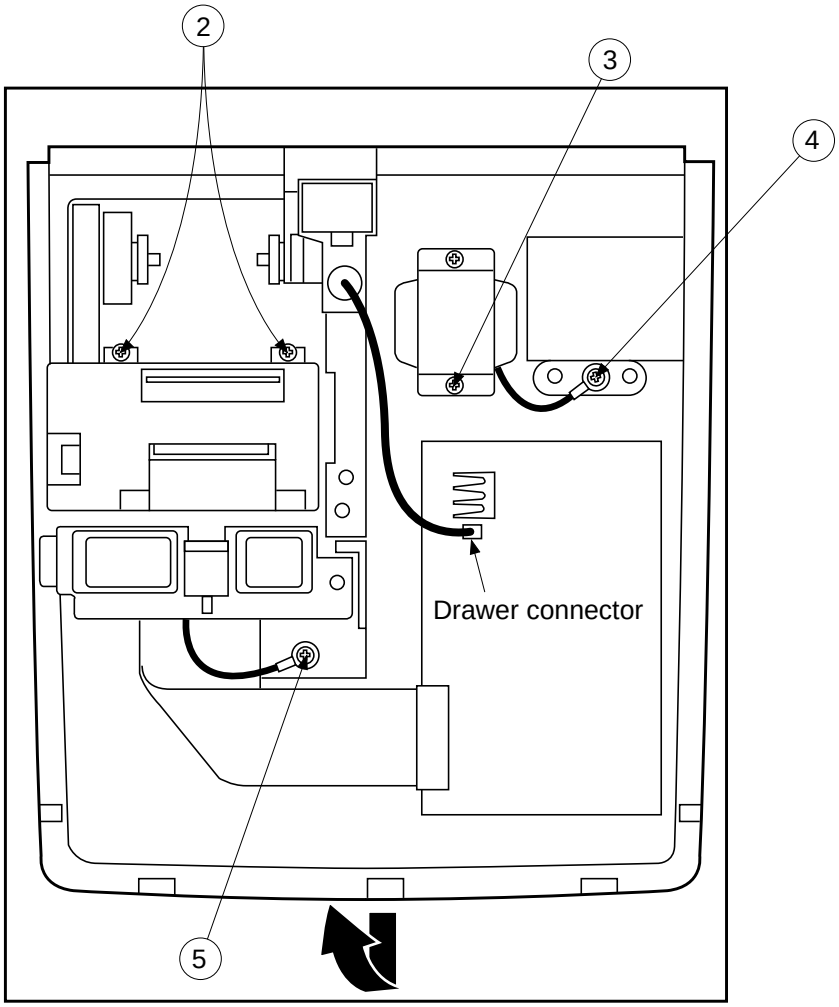
Note: Be sure to stand the customer display before remove the upper case.



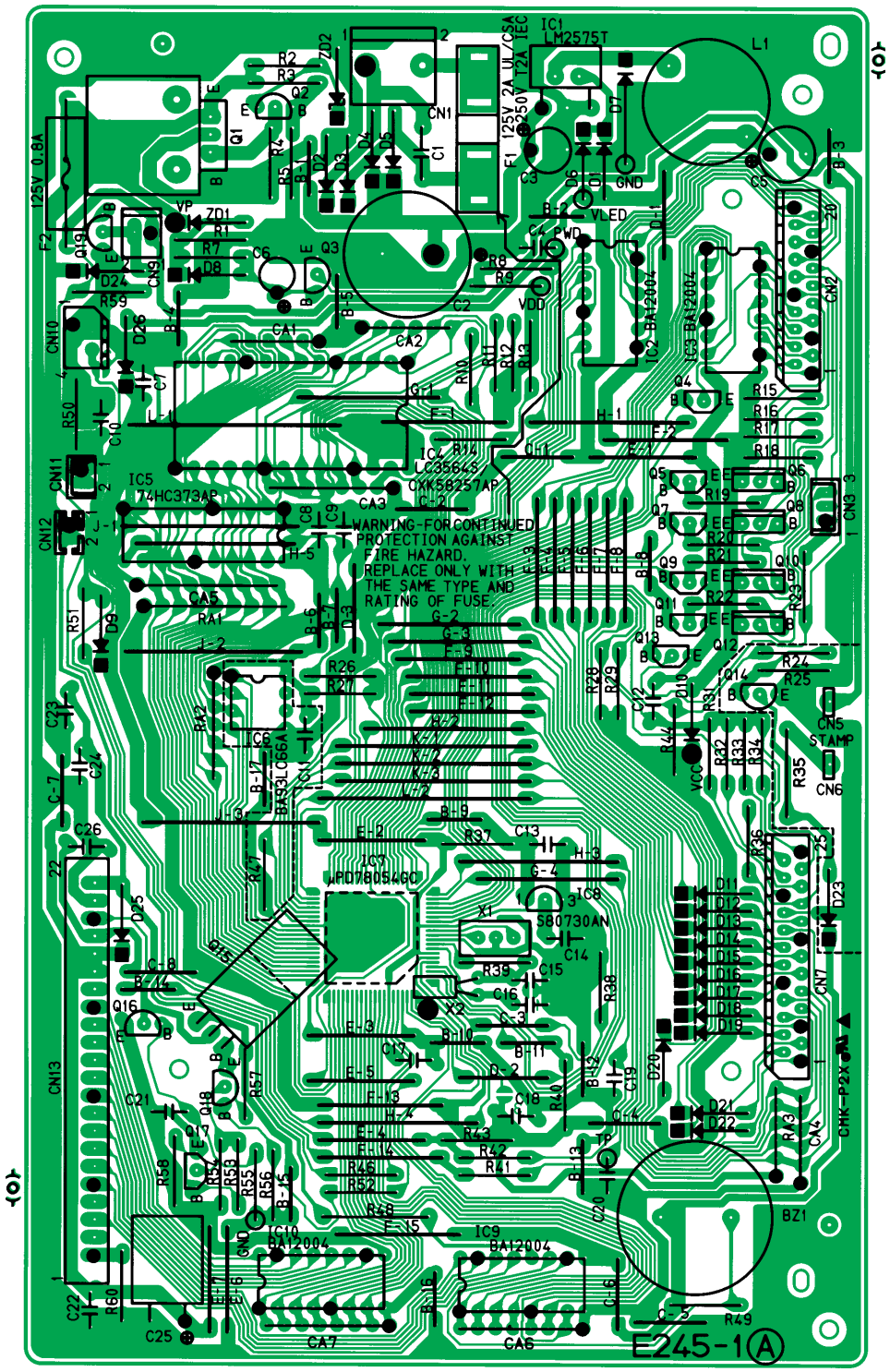


7. Remove the drawer

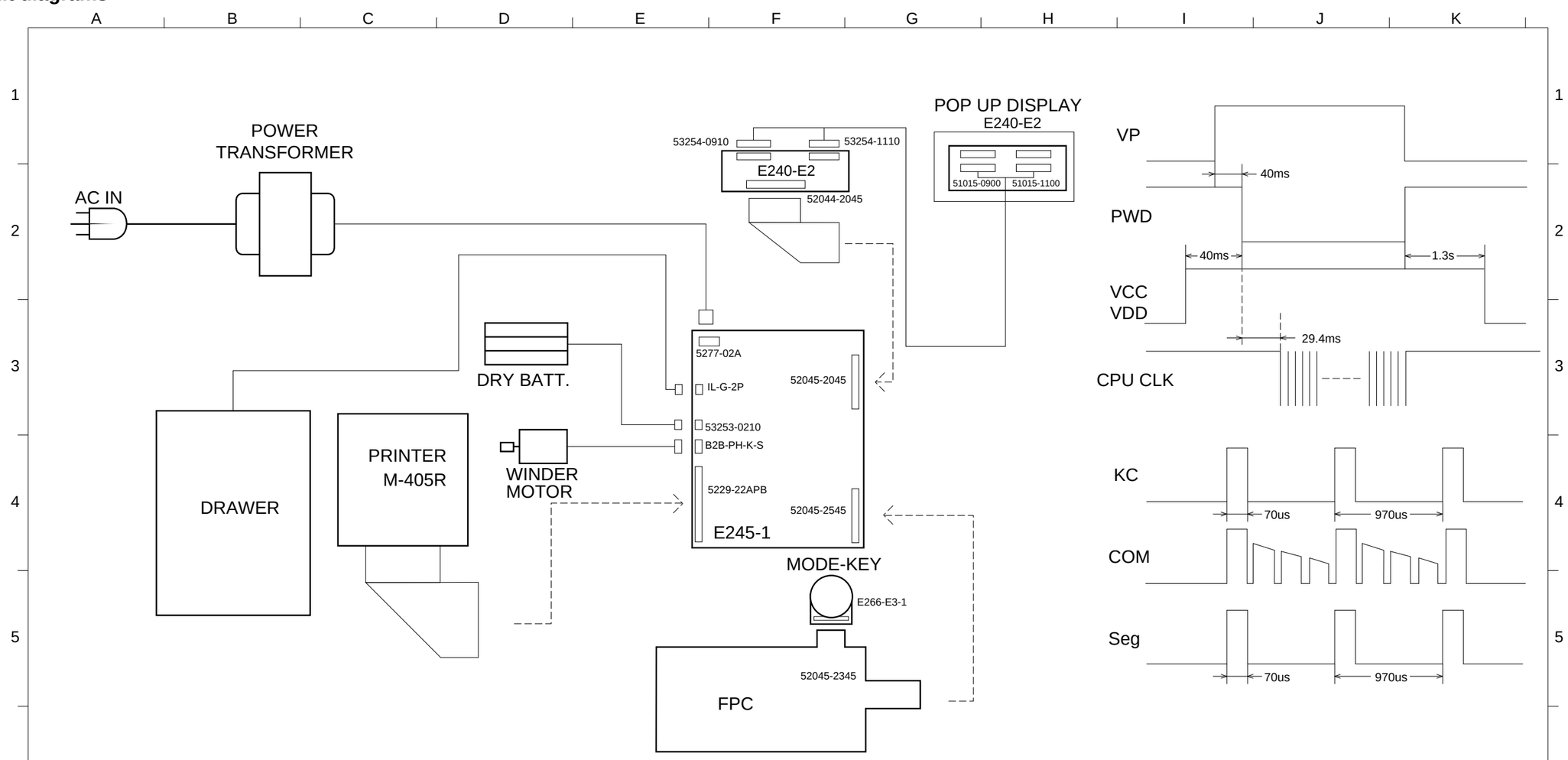
1. Remove the drawer connector.
2. Remove the screws ②, ③, ④ and ⑤.
3. Slide the lower case to arrow direction and pull up the lower case.



8. Parts layout



9. Circuit diagrams



○ U.S.A. SPEC.

EX-245 C

FEED	# NS	OPEN CLK#	7	8	9	25	30	35	40	DEPT SHIFT	RECEIPT ON/OFF
%	PRICE	PLU S.DEPT	4	5	6	5	10	15	20		
—	RF	X/FOR DATE TIME	1	2	3	24	29	34	39	RC T/S1	PD T/S2
POST RECEIPT	ERR. CORR CANCEL	C C/AC	0	00	•	÷ 4	9	14	19		
						23	28	33	38	CH	CHK
						× 3	8	13	18		
						22	27	32	37	SUB TOTAL	MD/ST
						– 2	7	12	17		
						21	26	31	36	CA =	AMT TEND
						+ 1	6	11	16		

○ CANADA SPEC.

EX-245 L

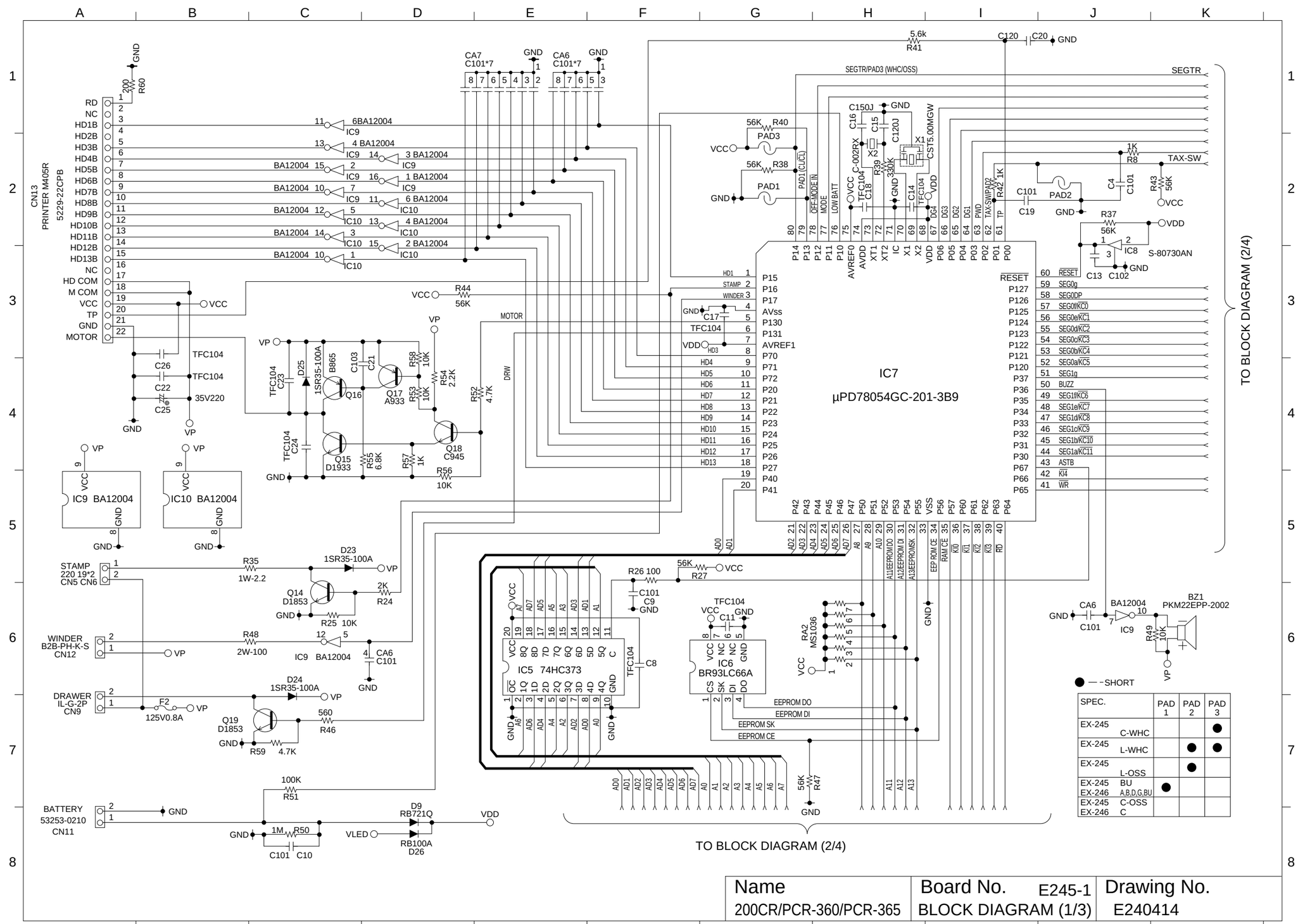
FEED	#	OPEN CLK#	7	8	9		5	10	NS	RECEIPT ON/OFF
%	PRICE	PLU S.DEPT	4	5	6	÷	4	9	RC T/S1	PD T/S2
—	RF	X/FOR DATE TIME	1	2	3	×	3	8	CH	CHK
POST RECEIPT	ERR. CORR CANCEL	C C/AC	0	00	•	–	2	7	SUB TOTAL	MD/ST
						+	1	6	CA =	AMT TEND

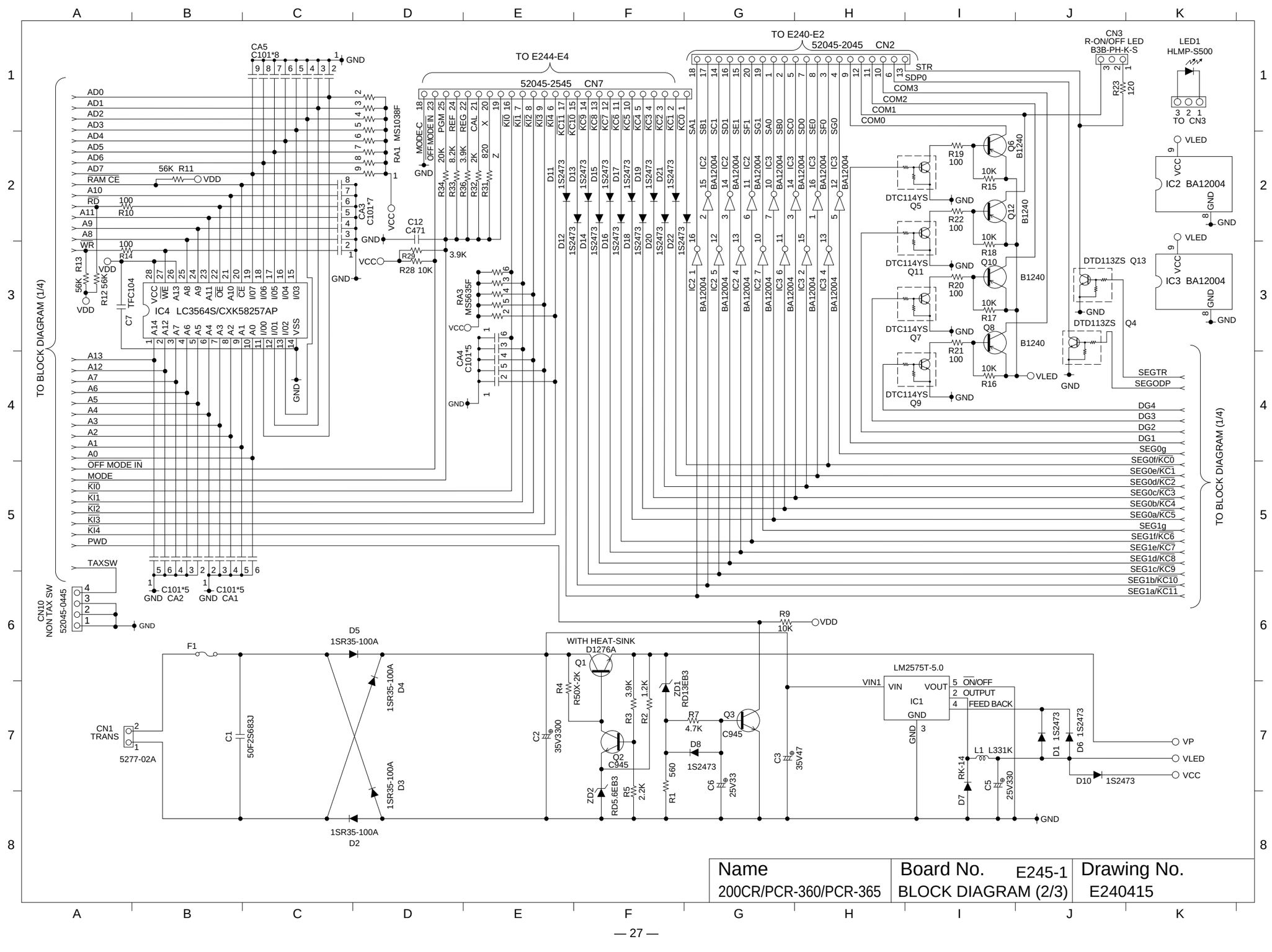
○ LIMITED AREAS SPEC.

EX-245 BU

FEED	RECEIPT ON/OFF	OPEN CLK#	7	8	9	÷	4	RC MR	PD
# NS	%	PLU	4	5	6	×	3	CH	CHK
—	RF	X/FOR DATE TIME	1	2	3	–	2	SUB TOTAL	
POST RECEIPT	ERR. CORR	C C/AC	0	00	•	+	1	CA =	AMT TEND

Name	Board No.	Drawing No.
200CR/PCR-360/PCR-365	BLOCK DIAGRAM	E240413


CN13
PRINTER M405R
5229-22CPB
RD
NC
HD1B
HD2B
HD3B
HD4B
HD5B
HD6B
HD7B
HD8B
HD9B
HD10B
HD11B
HD12B
HD13B
NC
HD COM
M COM
VCC
TP
GND
MOTOR
GND
200
R60
CA7
C101*7
CA6
C101*7
6BA12004
IC9
4 BA12004
3 BA12004
2 BA12004
1 BA12004
IC10
BA12004
VCC
R44
56K
TFC104
C26
C22
35V220
C25
VP
MOTOR
DRW
TFC104
C23
D25
1SR35-100A
B865
Q16
C103
C21
Q17
A933
R58
10K
R54
2.2K
R53
10K
R52
4.7K
TFC104
C24
Q15
D1933
R55
6.8K
R57
1K
Q18
C945
R56
10K
IC9 BA12004
IC10 BA12004
STAMP
220 19*2
CN5 CN6
R35
1W-2.2
D23
1SR35-100A
Q14
D1853
2K
R24
R25 10K
WINDER
B2B-PH-K-S
CN12
R48
2W-100
IC9 BA12004
CA6
C101
DRAWER
IL-G-2P
CN9
F2
125V0.8A
D24
1SR35-100A
Q19
D1853
560
R46
R59 4.7K
BATTERY
53253-0210
CN11
100K
R51
1M
R50
C101 C10
D9
RB721Q
VLED
RB100A
D26
VDD
5.6k
R41
C120
C20
GND
SEGTR/PAD3 (WHC/OSS)
SEGTR
C150J
C16
C15
C120J
56K R40
PAD3
56K R38
PAD1
X1
X2
CST5.00MGW
C-002FX
TFC104
C18
R39
330K
C14
1K
R8
TAX-SW
C101
PAD2
C19
C4
C101
R43
56K
R37
56K
IC8
S-80730AN
C13
C102
R42 1K
PAD1 (CLOCL)
OFF MODE IN
MODE
LOW BATT
TAX-SW/PAD2
TP
IC7
µPD78054GC-201-3B9
RESET
SEG0g
SEG0DP
SEG0f/KC0
SEG0e/KC1
SEG0d/KC2
SEG0c/KC3
SEG0b/KC4
SEG0a/KC5
SEG1g
BUZZ
SEG1f/KC6
SEG1e/KC7
SEG1d/KC8
SEG1c/KC9
SEG1b/KC10
SEG1a/KC11
ASTB
KI4
WR
RD
HD1
STAMP
WINDER
HD3
HD4
HD5
HD6
HD7
HD8
HD9
HD10
HD11
HD12
HD13
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
A8
A9
A10
A11/EEPROM DO
A12/EEPROM DI
A13/EEPROM SK
EEP ROM CE
RAM CE
IC5 74HC373
TFC104
C8
R26 100
C101
C9
56K
R27
TFC104
C11
IC6
BR93LC66A
RA2
MS1036
EEPROM DO
EEPROM DI
EEPROM SK
EEPROM CE
56K
R47
CA6
C101
BA12004
IC9
BZ1
PKM22EPP-2002
R49
10K
● — –SHORT
SPEC.
PAD 1
PAD 2
PAD 3
EX-245 C-WHC
EX-245 L-WHC
EX-245 L-OSS
EX-245 BU
EX-246 A,B,D,G,BU
EX-245 C-OSS
EX-246 C
TO BLOCK DIAGRAM (2/4)
TO BLOCK DIAGRAM (2/4)
Name
200CR/PCR-360/PCR-365
Board No. E245-1
BLOCK DIAGRAM (1/3)
Drawing No.
E240414


TO BLOCK DIAGRAM (1/4)
TO E240-E2
52045-2045 CN2
TO E244-E4
52045-2545 CN7
CN3
R-ON/OFF LED
B3B-PH-K-S
LED1
HLMP-S500
TO CN3
CA5
C101*8
GND
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
RAM CE
A10
RD
A11
A9
A8
WR
A13
A12
A7
A6
A5
A4
A3
A2
A1
A0
OFF MODE IN
MODE
KI0
KI1
KI2
KI3
KI4
PWD
TAXSW
MS1038F
RA1
56K R11
100 R10
100 R14
56K R13
56K R12
VDD
TFC104
C7
IC4 LC3564S/CXK58257AP
CA3
C101*7
CA4
C101*5
C12
C471
3.9K
R28 10K
RA3
MS5635F
C101*5
GND CA2
GND CA1
CN10
NON TAX SW
52045-0445
MODE-C
OFF MODE IN
PGM
REF
REG
CAL
X
Z
R34 20K
R33 8.2K
R36 3.9K
R32 2K
R31 820
STR
SDP0
COM3
COM2
COM1
COM0
SA1
SB1
SC1
SD1
SE1
SF1
SG1
SA0
SB0
SC0
SD0
SE0
SF0
SG0
R23 120
VLED
IC2 BA12004
IC3 BA12004
GND
DTC114YS
Q5
Q11
Q7
Q9
R19 100
R22 100
R20 100
R21 100
Q6 B1240
Q12 B1240
Q10 B1240
Q8 B1240
10K R15
10K R18
10K R17
10K R16
DTD113ZS Q13
DTD113ZS Q4
SEGTR
SEGODP
DG4
DG3
DG2
DG1
SEG0g
SEG0f/KC0
SEG0e/KC1
SEG0d/KC2
SEG0c/KC3
SEG0b/KC4
SEG0a/KC5
SEG1g
SEG1f/KC6
SEG1e/KC7
SEG1d/KC8
SEG1c/KC9
SEG1b/KC10
SEG1a/KC11
TO BLOCK DIAGRAM (1/4)
R9 10K
VDD
F1
D5
1SR35-100A
WITH HEAT-SINK
D1276A
Q1
R4 R50X-2K
R3 3.9K
R2 1.2K
ZD1 RD13EB3
R7 4.7K
Q3 C945
Q2 C945
D8 1S2473
ZD2 RD5.6EB3
R5 2.2K
R1 560
C6 25V33
C2 35V300
C3 35V47
CN1
TRANS
5277-02A
C1 50F2S683J
1SR35-100A D4
1SR35-100A D3
1SR35-100A D2
LM2575T-5.0
VIN1
VIN
VOUT
IC1
GND
5 ON/OFF
2 OUTPUT
4 FEED BACK
L1 L331K
RK-14
D7
C5 25V330
D1 1S2473
D6 1S2473
D10 1S2473
VP
VLED
VCC
Name
200CR/PCR-360/PCR-365
Board No. E245-1
BLOCK DIAGRAM (2/3)
Drawing No.
E240415

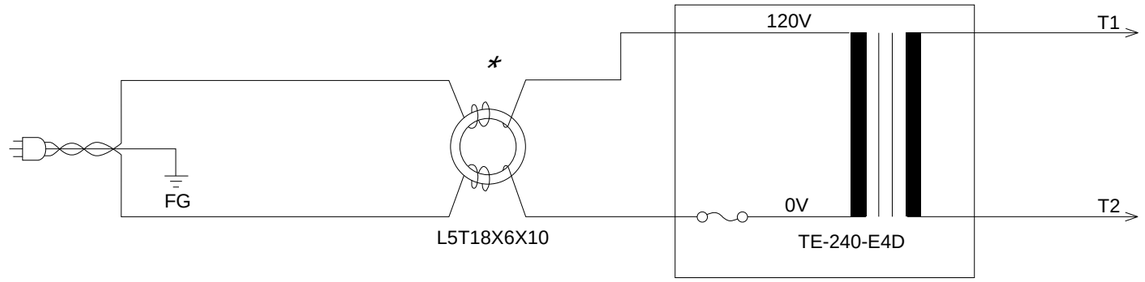
Location No.	Specification
IC1	LM2575T-5.0/LB03
IC2	BA12004
IC3	BA12004
IC4	LC3564S70/85/10
IC5	TC74HC373AP
IC6	
IC7	µPD78054GC-213-3B9
IC8	S80730AN-Z
IC9	BA12004
IC10	BA12004
C1	50F2S683J
C2	RE3-35V332M-T
C3	RE3-35V470MMA-T2
C4	RT-HE40TKYB101K-T
C5	RE2-25V331MMA-T2
C6	RE2-25V330MMA-T2
C7	ECQ-V1H-104-JZ3
C8	ECQ-V1H-104-JZ3
C9	RT-HE40TKYB101K-T
C10	RT-HE40TKYB101K-T
C11	
C12	RT-HE40TKYB471K-T
C13	RT-HE50TKYB102K-T
C14	ECQ-V1H-104-JZ3
C15	RT-HE40TKCH120J-T
C16	RT-HE40TKCH150J-T
C17	ECQ-V1H-104-JZ3
C18	ECQ-V1H-104-JZ3
C19	RT-HE40TKYB101K-T
C20	RT-HE50TKYB102K-T
C21	RT-HE12TKYB103K-T
C22	ECQ-V1H-104-JZ3
C23	ECQ-V1H-104-JZ3
C24	ECQ-V1H-104-JZ3
C25	RE2-35V221MMA-T2
C26	ECQ-V1H-104-JZ3
D1	1S2473-T-77-T
D2	1SR35-100A-T-82-T
D3	1SR35-100A-T-82-T
D4	1SR35-100A-T-82-T
D5	1SR35-100A-T-82-T
D6	1S2473-T-77-T
D7	RK-14V
D8	1S2473-T-77-T
D9	RB721Q-40T-77
D10	1S2473-T-77-T
D11	1S2473-T-77-T
D12	1S2473-T-77-T
D13	1S2473-T-77-T
D14	1S2473-T-77-T
D15	1S2473-T-77-T
D16	1S2473-T-77-T
D17	1S2473-T-77-T
D18	1S2473-T-77-T
D19	1S2473-T-77-T
D20	1S2473-T-77-T
D21	1S2473-T-77-T
D22	1S2473-T-77-T
D23	
D24	1SR35-100A-T-82-T
D25	1SR35-100A-T-82-T
D26	RB100AT-32
ZD1	RD13EB3-TN-T
ZD2	RD5.6EB3-TN-T

Location No.	Specification
R1	CR-25-560-OHM-J-T
R2	CR-25-1.2K-OHM-J-T
R3	CR-25-3.9K-OHM-J-T
R4	R50X-2K-J-T24-T
R5	CR-25-2.2K-OHM-J-T
R6	
R7	CR-25-4.7K-OHM-J-T
R8	CR-25-1K-OHM-J-T
R9	CR-25-10K-OHM-J-T
R10	CR-25-100-OHM-J-T
R11	CR-25-56K-OHM-J-T
R12	CR-25-56K-OHM-J-T
R13	CR-25-56K-OHM-J-T
R14	CR-25-100-OHM-J-T
R15	CR-25-10K-OHM-J-T
R16	CR-25-10K-OHM-J-T
R17	CR-25-10K-OHM-J-T
R18	CR-25-10K-OHM-J-T
R19	CR-25-100-OHM-J-T
R20	CR-25-100-OHM-J-T
R21	CR-25-100-OHM-J-T
R22	CR-25-100-OHM-J-T
R23	
R24	
R25	
R26	CR-25-100-OHM-J-T
R27	CR-25-56K-OHM-J-T
R28	CR-25-10K-OHM-J-T
R29	CR-25-3.9K-OHM-J-T
R30	
R31	CR-25-820-OHM-J-T
R32	CR-25-2K-OHM-J-T
R33	CR-25-8.2K-OHM-J-T
R34	CR-25-20K-OHM-J-T
R35	
R36	CR-25-3.9K-OHM-J-T
R37	CR-25-56K-OHM-J-T
R38	CR-25-56K-OHM-J-T
R39	CR-25-330K-OHM-J-T
R40	CR-25-56K-OHM-J-T
R41	CR-25-5.6K-OHM-J-T
R42	CR-25-1K-OHM-J-T
R43	CR-25-56K-OHM-J-T
R44	CR-25-56K-OHM-J-T
R45	
R46	CR-25-560-OHM-J-T
R47	
R48	CRH200-FH24J-101
R49	CR-25-10K-OHM-J-T
R50	CR-25-1M-OHM-J-T
R51	CR-25-100K-OHM-J-T
R52	CR-25-4.7K-OHM-J-T
R53	CR-25-10K-OHM-J-T
R54	CR-25-2.2K-OHM-J-T
R55	CR-25-6.8K-OHM-J-T
R56	CR-25-10K-OHM-J-T
R57	CR-25-1K-OHM-J-T
R58	CR-25-10K-OHM-J-T
R59	CR-25-4.7K-OHM-J-T
R60	CR-25-200-OHM-J-T
RA1	MS1038F
RA2	MS1036F
RA3	MS5635F
CA1	CNB5X101K
CA2	CNB5X101K
CA3	CNB7X101K
CA4	CNB5X101K
CA5	
CA6	
CA7	

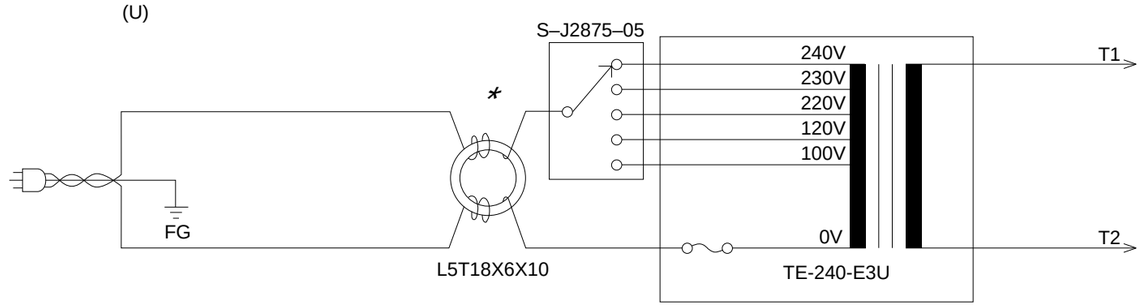
Location No.	Specification
Q1	2SD1276A
Q2	2SC945(K, P, Q, R)-T
Q3	2SC945(K, P, Q, R)-T
Q4	DTD113ZS-TP-T
Q5	DTC114YSA-TP-T
Q6	2SB1240V2-Q, R
Q7	DTC114YSA-TP-T
Q8	2SB1240V2-Q, R
Q9	DTC114YSA-TP-T
Q10	2SB1240V2-Q, R
Q11	DTC114YSA-TP-T
Q12	2SB1240V2-Q, R
Q13	
Q14	
Q15	2SD1933
Q16	2SB865-AE
Q17	2SA933AS(QRS)-TP
Q18	2SC945(K, P, Q, R)-T
Q19	2SD1853-AA
CN1	5277-02A
CN2	52045-2045
CN3	
CN4	
CN5	
CN6	
CN7	52045-2545
CN8	
CN9	IL-G-2P-S3T2-E
CN10	
CN11	53253-0210
CN12	B2B-PH-K-S
CN13	5229-22APB
F1	UF-0033
F1	218002
F1	237002
F2	UL-TSCR-0.8A
B-1~17	UJW-B
C-1~8	UJW-C
D-1~3	UJW-D
E-1~7	UJW-E
F-1~15	UJW-F
G-1~4	UJW-G
H-1~5	UJW-H
J-1~3	UJW-J
K-1~3	UJW-K
L-1~2	UJW-L
X1	CST5.00MGW
X2	C-002RX(M90-76)
BZ1	PKM22EPP-2002
L1	OWA1419-681K
Heat sink	OSH-1625-SPL

Name	Board No.	Drawing No.
200CR/PCR-360/PCR-365	E245-1 BLOCK DIAGRAM (3/3)	E240417

<US. CANADA SPEC.>
(C, L)

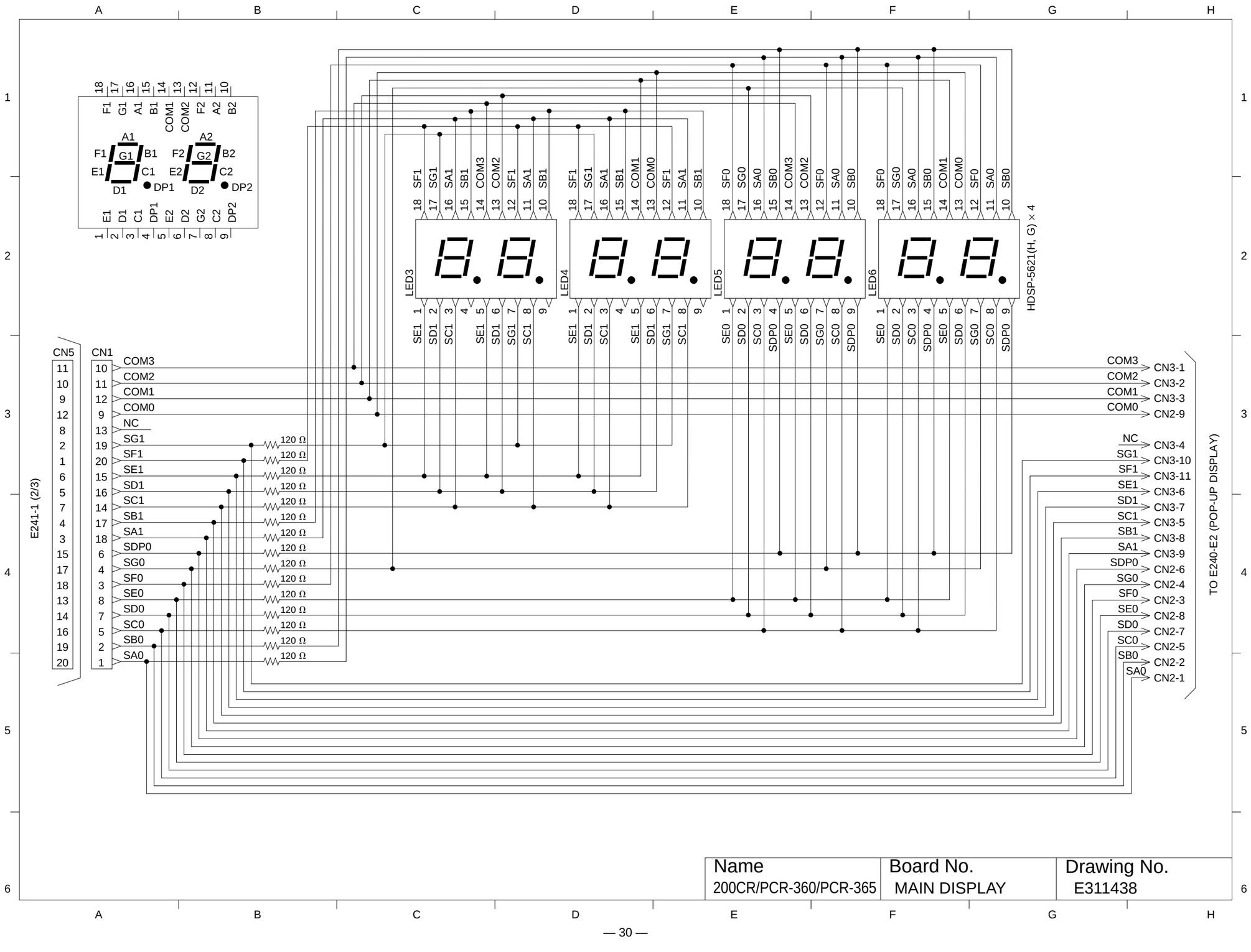


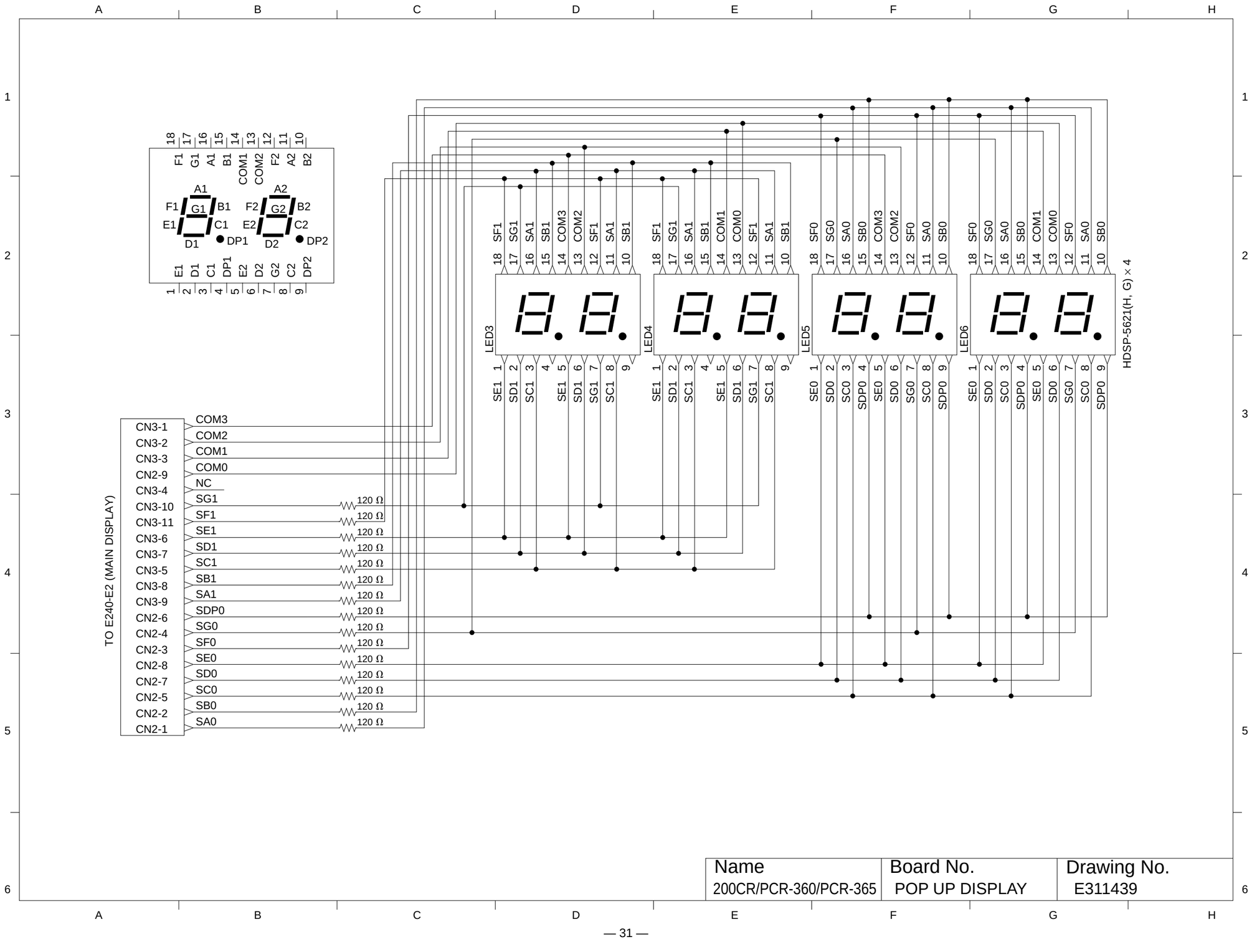
<LIMITED AREAS SPEC.>
(U)

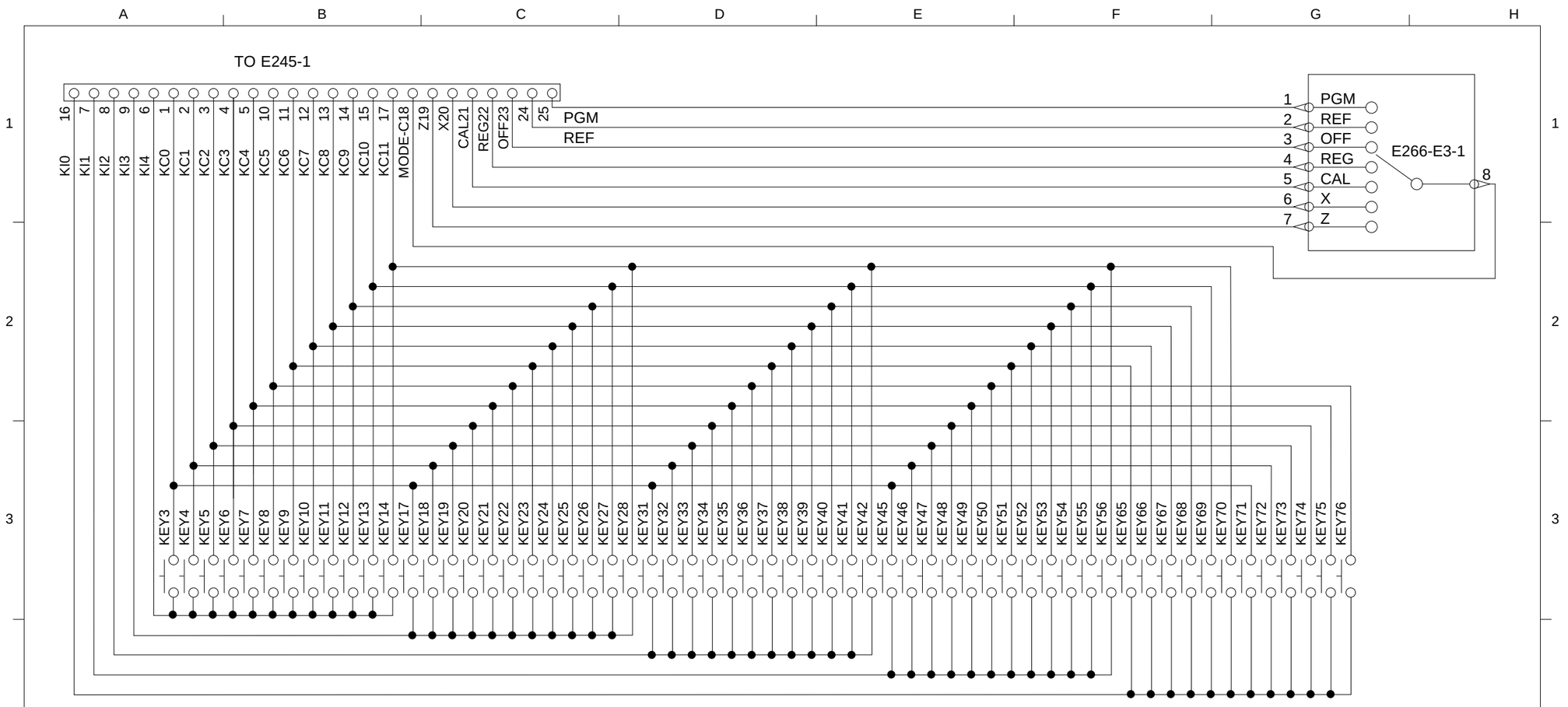


TO E245-1 (2/3)

Name	Board No.	Drawing No.
200CR/PCR-360/PCR-365	POWER SUPPLY	E340559


A1
F1
G1
B1
E1
C1
D1
DP1
A2
F2
G2
B2
E2
C2
D2
DP2
LED3
LED4
LED5
LED6
HDSP-5621(H, G) × 4
CN5
CN1
E241-1 (2/3)
COM3
COM2
COM1
COM0
NC
SG1
SF1
SE1
SD1
SC1
SB1
SA1
SDP0
SG0
SF0
SE0
SD0
SC0
SB0
SA0
120 Ω
CN3-1
CN3-2
CN3-3
CN2-9
CN3-4
CN3-10
CN3-11
CN3-6
CN3-7
CN3-5
CN3-8
CN3-9
CN2-6
CN2-4
CN2-3
CN2-8
CN2-7
CN2-5
CN2-2
CN2-1
TO E240-E2 (POP-UP DISPLAY)
Name
200CR/PCR-360/PCR-365
Board No.
MAIN DISPLAY
Drawing No.
E311438

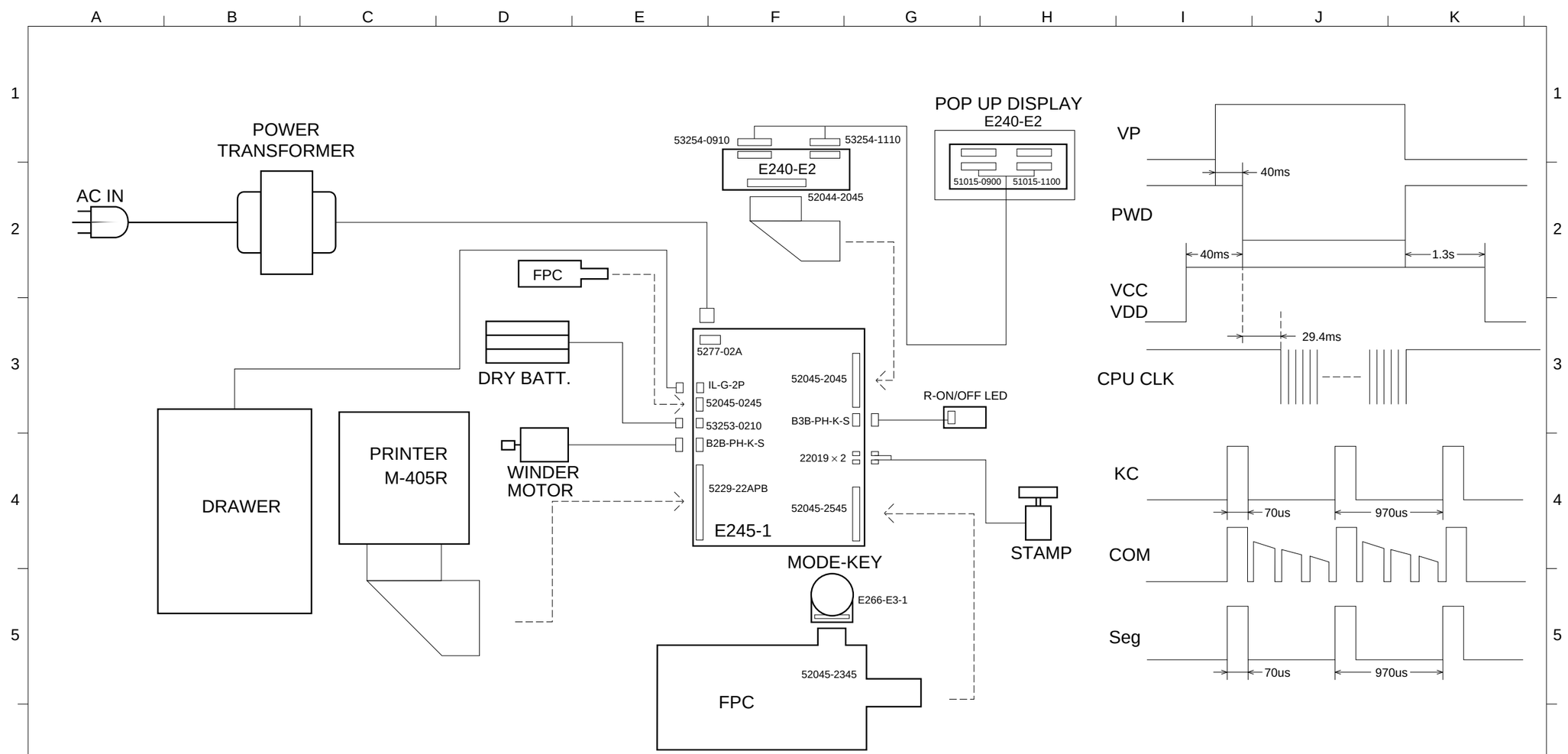

A
B
C
D
E
F
G
H
1
2
3
4
5
6
18 17 16 15 14 13 12 11 10
F1 G1 A1 B1 COM1 COM2 F2 A2 B2
A1
F1 G1 B1
F2 G2 B2
E1 C1
E2 C2
D1 DP1 D2 DP2
1 2 3 4 5 6 7 8 9
E1 D1 C1 DP1 E2 D2 G2 C2 DP2
LED3
LED4
LED5
LED6
SF1 SG1 SA1 SB1 COM3 COM2
SF1 SG1 SA1 SB1 COM1 COM0
SF0 SG0 SA0 SB0 COM3 COM2
SF0 SG0 SA0 SB0 COM1 COM0
SE1 SD1 SC1 SE1 SD1 SG1 SC1
SE1 SD1 SC1 SE1 SD1 SG1 SC1
SE0 SD0 SC0 SDP0 SE0 SD0 SG0 SC0 SDP0
SE0 SD0 SC0 SDP0 SE0 SD0 SG0 SC0 SDP0
HDSP-5621(H, G) × 4
TO E240-E2 (MAIN DISPLAY)
CN3-1
CN3-2
CN3-3
CN2-9
CN3-4
CN3-10
CN3-11
CN3-6
CN3-7
CN3-5
CN3-8
CN3-9
CN2-6
CN2-4
CN2-3
CN2-8
CN2-7
CN2-5
CN2-2
CN2-1
COM3
COM2
COM1
COM0
NC
SG1
SF1
SE1
SD1
SC1
SB1
SA1
SDP0
SG0
SF0
SE0
SD0
SC0
SB0
SA0
120 Ω
Name
200CR/PCR-360/PCR-365
Board No.
POP UP DISPLAY
Drawing No.
E311439



KEY CONTACT POSITION

						71	72	73	74	75	76
						65	66	67	68	69	70
45	46	47	48	49	50	51	52	53	54	55	56
31	32	33	34	35	36	37	38	39	40	41	42
17	18	19	20	21	22	23	24	25	26	27	28
3	4	5	6	7	8	9	10	11	12	13	14

Name	Board No.	Drawing No.
200CR/PCR-360/PCR-365	KEY BOARD	E340555



○ U.S.A. SPEC.

EX-246 C

FEED	# / NS	OPEN / CLK#	
%	PRICE	PLU / S.DEPT	
—	RF	X/FOR / DATE TIME	
POST RECEIPT	ERR. CORR CANCEL	C C/AC	

7	8	9
4	5	6
1	2	3
0	00	•

25	30	35	40	DEPT SHIFT	RECEIPT ON/OFF
5	10	15	20		
24	29	34	39	RC / T/S1	PD / T/S2
÷ 4	9	14	19		
23	28	33	38	CH	CHK
× 3	8	13	18		
22	27	32	37	SUB TOTAL	MD/ST
– 2	7	12	17		
21	26	31	36	CA / =	AMT / TEND
+ 1	6	11	16		

○ EUROPE, UK, GERMANY, LIMITED AREAS SPEC.

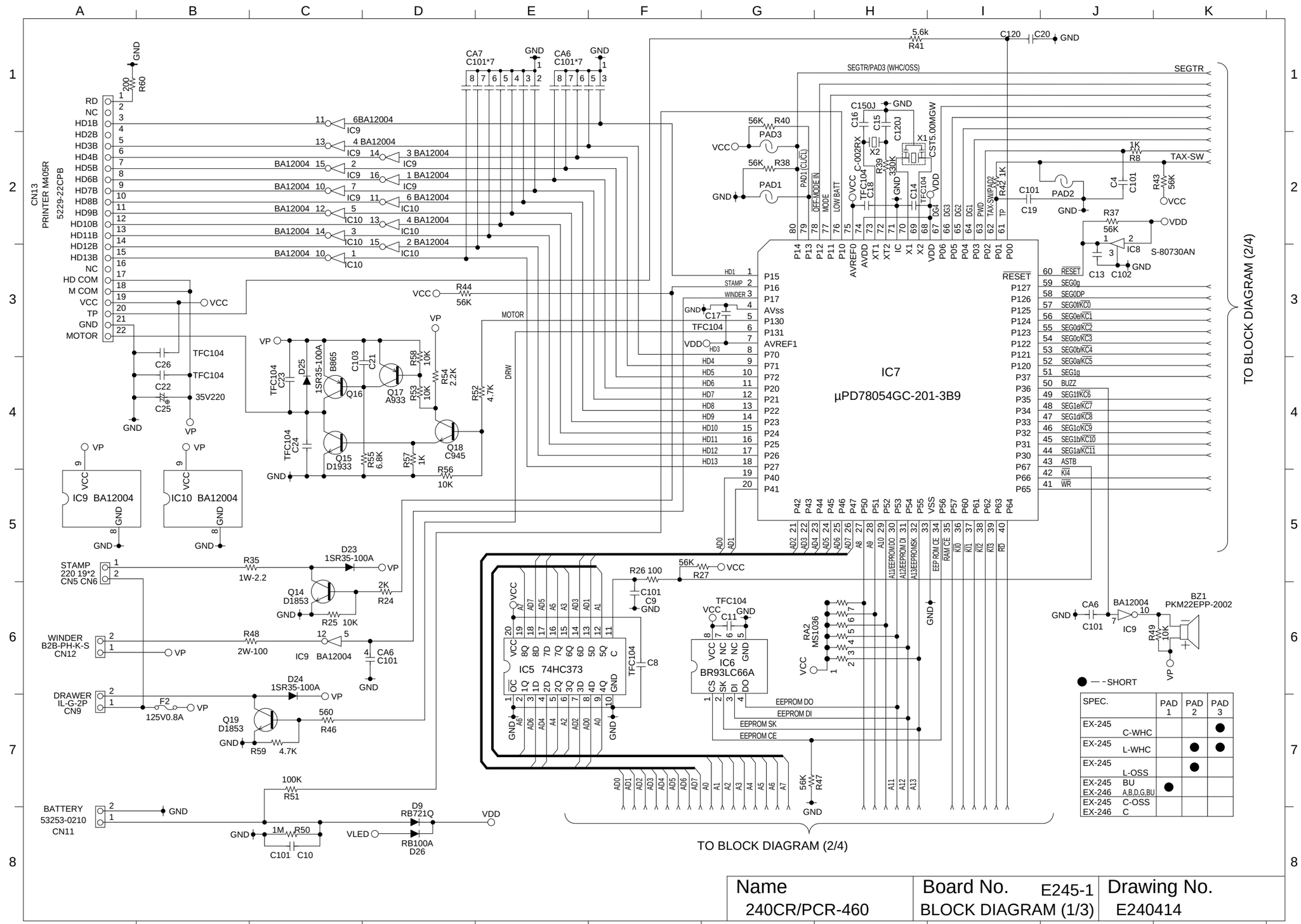
EX-246 B, D, G, BU

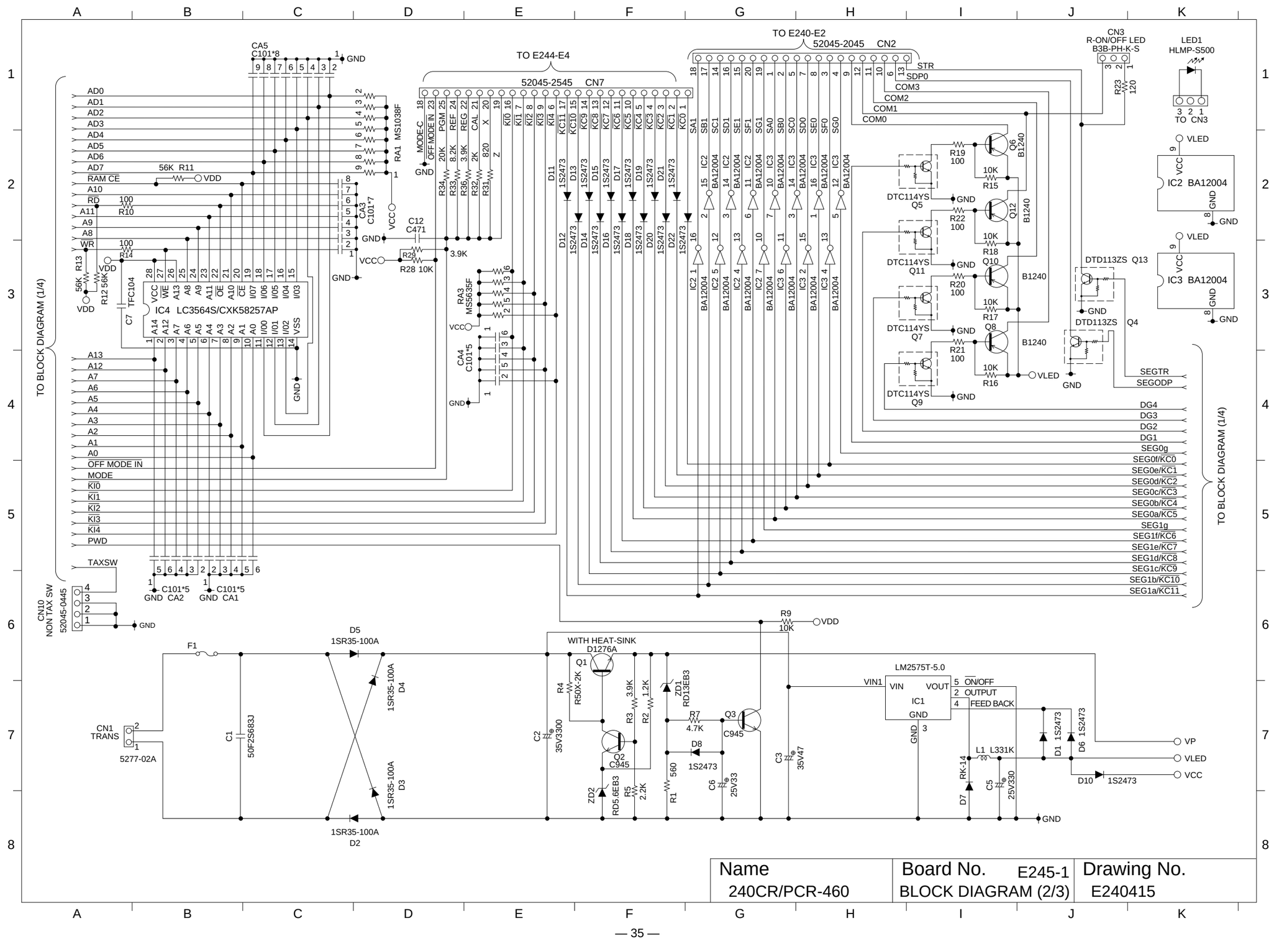
FEED	# / NS	OPEN / CLK#	
%	PRICE	PLU	
—	RF	X / DATE TIME	
POST RECEIPT	ERR. CORR CANCEL	C C/AC	

7	8	9
4	5	6
1	2	3
0	00	•

		VAT	RECEIPT ON/OFF
÷	4	RC / MR	PD
×	3	CH	CHK
–	2	SUB TOTAL	
+	1	CA / =	AMT / TEND

Name	Board No.	Drawing No.
240CR/PCR-460	BLOCK DIAGRAM	E240416


CN13
PRINTER M405R
5229-22CPB
RD
NC
HD1B
HD2B
HD3B
HD4B
HD5B
HD6B
HD7B
HD8B
HD9B
HD10B
HD11B
HD12B
HD13B
NC
HD COM
M COM
VCC
TP
GND
MOTOR
R60 200
CA7 C101*7
CA6 C101*7
6BA12004 IC9
4 BA12004 IC9
3 BA12004 IC9
2 BA12004 IC9
1 BA12004 IC9
6 BA12004 IC10
5 BA12004 IC10
4 BA12004 IC10
3 BA12004 IC10
2 BA12004 IC10
1 IC10
BA12004
R41 5.6k
C120
C20
SEGTR/PAD3 (WHC/OSS)
SEGTR
R40 56K
PAD3
R38 56K
PAD1
C150J
C16
C15
C120J
X1
X2
CST5.00MGW
C-002FX
TFC104
C18
R39 330K
C14
R42 1K
TAX-SW/PAD2
C101
C19
PAD2
R8 1K
TAX-SW
C4
C101
R43 56K
R37 56K
IC8 S-80730AN
C13
C102
IC7
μPD78054GC-201-3B9
RESET
SEG0g
SEG0DP
SEG0f/KC0
SEG0e/KC1
SEG0d/KC2
SEG0c/KC3
SEG0b/KC4
SEG0a/KC5
SEG1g
BUZZ
SEG1f/KC6
SEG1e/KC7
SEG1d/KC8
SEG1c/KC9
SEG1b/KC10
SEG1a/KC11
ASTB
KI4
WR
HD1
STAMP
WINDER
HD3
HD4
HD5
HD6
HD7
HD8
HD9
HD10
HD11
HD12
HD13
R44 56K
MOTOR
C26
C22
C25
35V220
TFC104
VP
GND
C103
C21
D25
1SR35-100A
B865
Q16
Q17
A933
R58 10K
R54 2.2K
R53 10K
R52 4.7K
DRW
TFC104
C24
C23
Q15
D1933
R55 6.8K
R57 1K
Q18
C945
R56 10K
IC9 BA12004
IC10 BA12004
STAMP
220 19*2
CN5 CN6
R35 1W-2.2
D23
1SR35-100A
Q14
D1853
R24 2K
R25 10K
WINDER
B2B-PH-K-S
CN12
R48 2W-100
IC9 BA12004
CA6
C101
DRAWER
IL-G-2P
CN9
F2
125V0.8A
D24
1SR35-100A
Q19
D1853
R46 560
R59 4.7K
BATTERY
53253-0210
CN11
100K
R51
1M
R50
C101
C10
D9
RB721Q
RB100A
D26
VLED
VDD
R26 100
R27 56K
C101
C9
IC5 74HC373
TFC104
C8
TFC104
C11
IC6
BR93LC66A
RA2
MS1036
EEPROM DO
EEPROM DI
EEPROM SK
EEPROM CE
R47 56K
BZ1
PKM22EPP-2002
BA12004
IC9
R49 10K
CA6
C101
SHORT
SPEC.
PAD 1
PAD 2
PAD 3
EX-245 C-WHC
EX-245 L-WHC
EX-245 L-OSS
EX-245 BU
EX-246 A,B,D,G,BU
EX-245 C-OSS
EX-246 C
TO BLOCK DIAGRAM (2/4)
TO BLOCK DIAGRAM (2/4)
Name
240CR/PCR-460
Board No. E245-1
BLOCK DIAGRAM (1/3)
Drawing No.
E240414



Name	Board No.	Drawing No.
240CR/PCR-460	E245-1 BLOCK DIAGRAM (2/3)	E240415

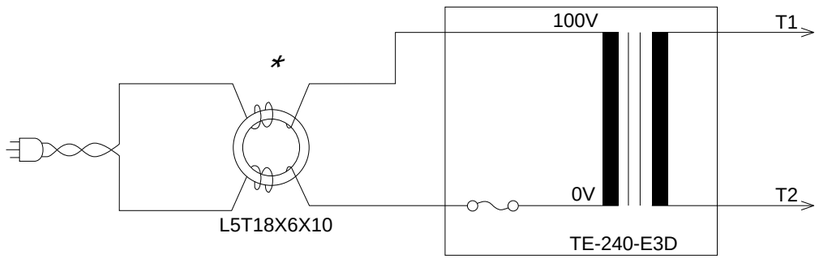
Location No.	Specification
IC1	LM2575T-5.0/LB03
IC2	BA12004
IC3	BA12004
IC4	LC3564S70/85/10
IC4	CXK58257AP-70/10L
IC5	TC74HC373AP
IC6	BA93LC66A
IC6	DILB8P-8JK
IC7	µPD78054GC-214-3B9
IC8	S80730AN-Z
IC9	BA12004
IC10	BA12004
C1	50F2S683J
C2	RE3-35V332M-T
C3	RE3-35V470MMA-T2
C4	RT-HE40TKYB101K-T
C5	RE2-25V331MMA-T2
C6	RE2-25V330MMA-T2
C7	ECQ-V1H-104-JZ3
C8	ECQ-V1H-104-JZ3
C9	RT-HE40TKYB101K-T
C10	RT-HE40TKYB101K-T
C11	ECQ-V1H-104-JZ3
C12	RE-HE40TKYB471K-T
C13	RT-HE50TKYB102K-T
C14	ECQ-V1H-104-JZ3
C15	RT-HE40TKCH120J-T
C16	RT-HE40TKCH150J-T
C17	ECQ-V1H-104-JZ3
C18	ECQ-V1H-104-JZ3
C19	RT-HE40TKYB101K-T
C20	RT-HE50TKYB102K-T
C21	RT-HE12TKYB103K-T
C22	ECQ-V1H-104-JZ3
C23	ECQ-V1H-104-JZ3
C24	ECQ-V1H-104-JZ3
C25	RE2-35V221MMA-T2
C26	ECQ-V1H-104-JZ3
D1	1S2473-T-77-T
D2	1SR35-100A-T-82-T
D3	1SR35-100A-T-82-T
D4	1SR35-100A-T-82-T
D5	1SR35-100A-T-82-T
D6	1S2473-T-77-T
D7	RK-14V
D8	1S2473-T-77-T
D9	RB721Q-40T-77
D10	1S2473-T-77-T
D11	1S2473-T-77-T
D12	1S2473-T-77-T
D13	1S2473-T-77-T
D14	1S2473-T-77-T
D15	1S2473-T-77-T
D16	1S2473-T-77-T
D17	1S2473-T-77-T
D18	1S2473-T-77-T
D19	1S2473-T-77-T
D20	1S2473-T-77-T
D21	1S2473-T-77-T
D22	1S2473-T-77-T
D23	1SR35-100A-T-82-T
D24	1SR35-100A-T-82-T
D25	1SR35-100A-T-82-T
D26	RB100AT-32
ZD1	RD13EB3-TN-T
ZD2	RD5.6EB3-TN-T

Location No.	Specification
R1	CR-25-560-OHM-J-T
R2	CR-25-1.2K-OHM-J-T
R3	CR-25-3.9K-OHM-J-T
R4	R50X-2K-J-T24-T
R5	CR-25-2.2K-OHM-J-T
R6	
R7	CR-25-4.7K-OHM-J-T
R8	CR-25-1K-OHM-J-T
R9	CR-25-10K-OHM-J-T
R10	CR-25-100-OHM-J-T
R11	CR-25-56K-OHM-J-T
R12	CR-25-56K-OHM-J-T
R13	CR-25-56K-OHM-J-T
R14	CR-25-100-OHM-J-T
R15	CR-25-10K-OHM-J-T
R16	CR-25-10K-OHM-J-T
R17	CR-25-10K-OHM-J-T
R18	CR-25-10K-OHM-J-T
R19	CR-25-100-OHM-J-T
R20	CR-25-100-OHM-J-T
R21	CR-25-100-OHM-J-T
R22	CR-25-100-OHM-J-T
R23	CR-25-120-OHM-J-T
R24	CR-25-2K-OHM-J-T
R25	CR-25-10K-OHM-J-T
R26	CR-25-100-OHM-J-T
R27	CR-25-56K-OHM-J-T
R28	CR-25-10K-OHM-J-T
R29	CR-25-3.9K-OHM-J-T
R30	
R31	CR-25-820-OHM-J-T
R32	CR-25-2K-OHM-J-T
R33	CR-25-8.2K-OHM-J-T
R34	CR-25-20K-OHM-J-T
R35	CRH100-FH11J-2R2
R36	CR-25-3.9K-OHM-J-T
R37	CR-25-56K-OHM-J-T
R38	CR-25-56K-OHM-J-T
R39	CR-25-330K-OHM-J-T
R40	CR-25-56K-OHM-J-T
R41	CR-25-5.6K-OHM-J-T
R42	CR-25-1K-OHM-J-T
R43	CR-25-56K-OHM-J-T
R44	CR-25-56K-OHM-J-T
R45	
R46	CR-25-560-OHM-J-T
R47	CR-25-56K-OHM-J-T
R48	CRH200-FH24J-101
R49	CR-25-10K-OHM-J-T
R50	CR-25-1M-OHM-J-T
R51	CR-25-100K-OHM-J-T
R52	CR-25-4.7K-OHM-J-T
R53	CR-25-10K-OHM-J-T
R54	CR-25-2.2K-OHM-J-T
R55	CR-25-6.8K-OHM-J-T
R56	CR-25-10K-OHM-J-T
R57	CR-25-1K-OHM-J-T
R58	CR-25-10K-OHM-J-T
R59	CR-25-4.7K-OHM-J-T
R60	CR-25-200-OHM-J-T
RA1	MS1038F
RA2	MS1036F
RA3	MS5635F
CA1	CNB5X101K
CA2	CNB5X101K
CA3	CNB7X101K
CA4	CNB5X101K
CA5	
CA6	
CA7	

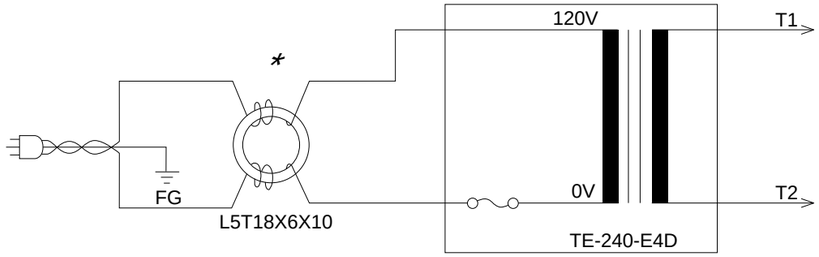
Location No.	Specification
Q1	2SD1276A
Q2	2SC945(K, P, Q, R)-T
Q3	2SC945(K, P, Q, R)-T
Q4	DTD113ZS-TP-T
Q5	DTC114YSA-TP-T
Q6	2SB1240V2-Q, R
Q7	DTC114YSA-TP-T
Q8	2SB1240V2-Q, R
Q9	DTC114YSA-TP-T
Q10	2SB1240V2-Q, R
Q11	DTC114YSA-TP-T
Q12	2SB1240V2-Q, R
Q13	DTD113ZS-TP-T
Q14	2SD1853-AA
Q15	2SD1933
Q16	2SB865-AE
Q17	2SA933AS(QRS)-TP
Q18	2SC945(K, P, Q, R)-T
Q19	2SD1853-AA
CN1	5277-02A
CN2	52045-2045
CN3	B3B-PH-K-S
CN4	
CN5	22019
CN6	22019
CN7	52045-2545
CN8	
CN9	IL-G-2P-S3T2-E
CN10	52045-0445
CN11	53253-0210
CN12	B2B-PH-K-S
CN13	5229-22APB
F1	UF-0033
F1	218002
F1	237002
F2	UL-TSCR-0.8A
B-1~17	UJW-B
C-1~8	UJW-C
D-1~3	UJW-D
E-1~7	UJW-E
F-1~15	UJW-F
G-1~4	UJW-G
H-1~5	UJW-H
J-1~3	UJW-J
K-1~3	UJW-K
L-1~2	UJW-L
X1	CST5.00MGW
X2	C-002RX(M90-76)
BZ1	PKM22EPP-2002
L1	OWA1419-681K
Heat sink	OSH-1625-SPL

Name	Board No.	Drawing No.
240CR/PCR-460	E245-1 BLOCK DIAGRAM (3/3)	E240418

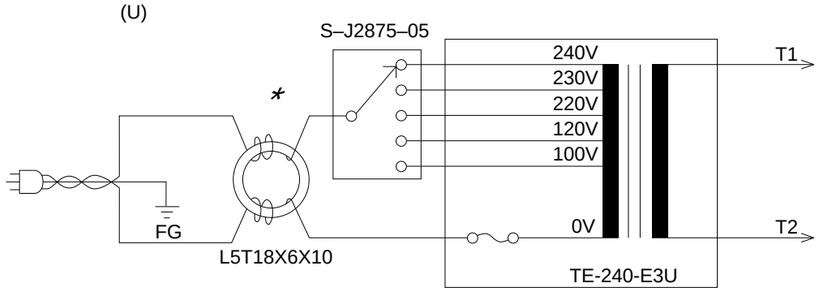
<JAPAN SPEC.>
(A)



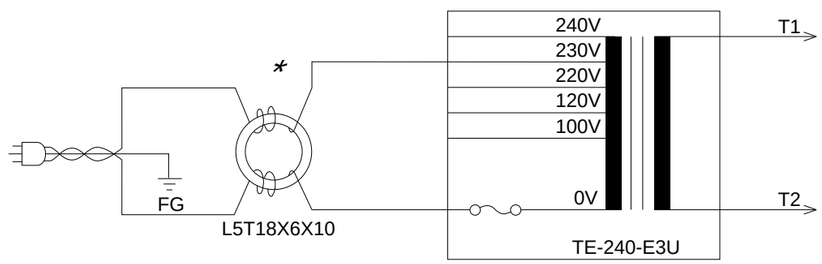
<US. CANADA SPEC.>
(C, L)



<LIMITED AREAS SPEC.>
(U)



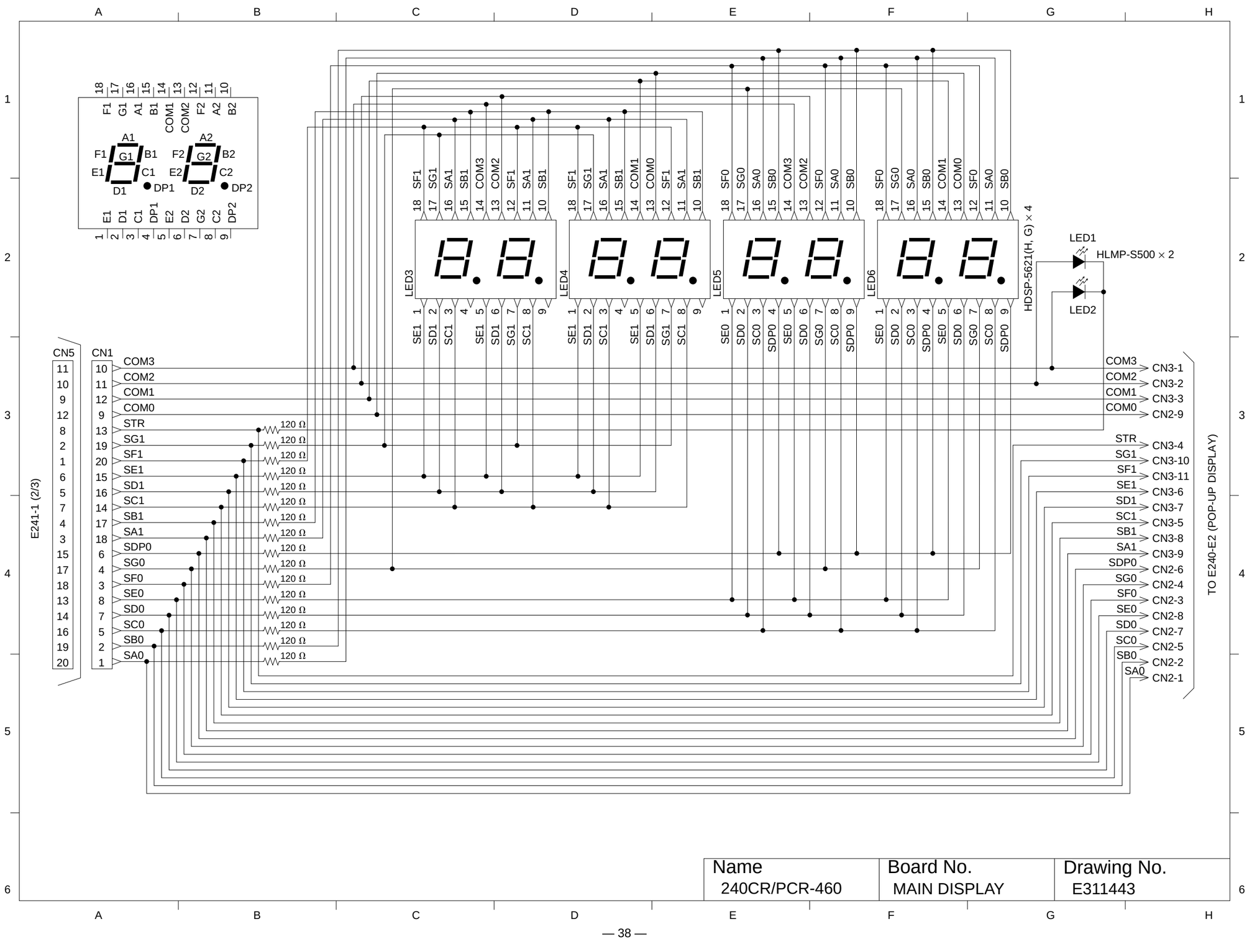
<EUROPE>
(B, D, F, G)



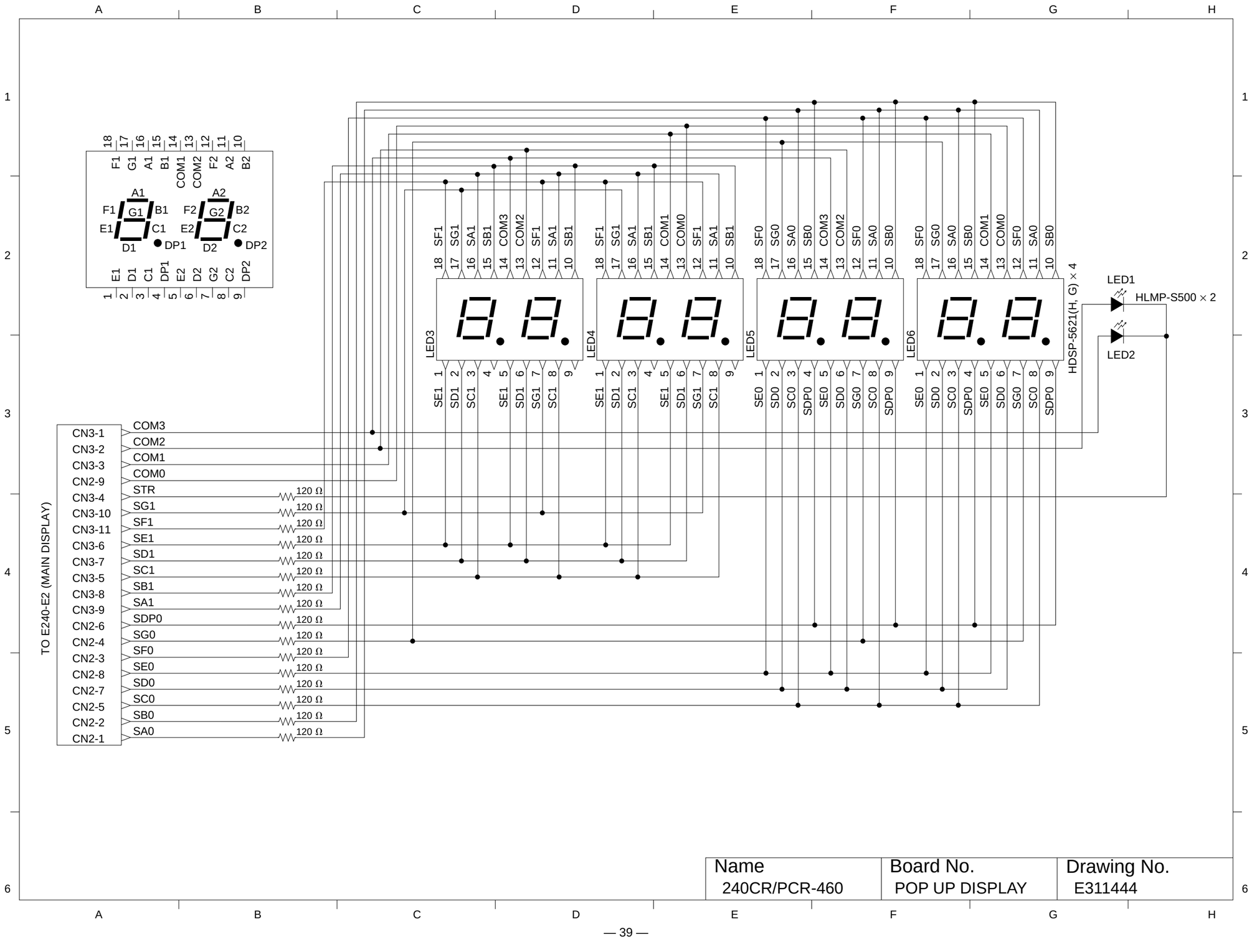
TO E245-1 (2/3)

TO E245-1 (2/3)

Name	Board No.	Drawing No.
240CR/PCR-460	POWER SUPPLY	E340557



Name	Board No.	Drawing No.
240CR/PCR-460	MAIN DISPLAY	E311443


A
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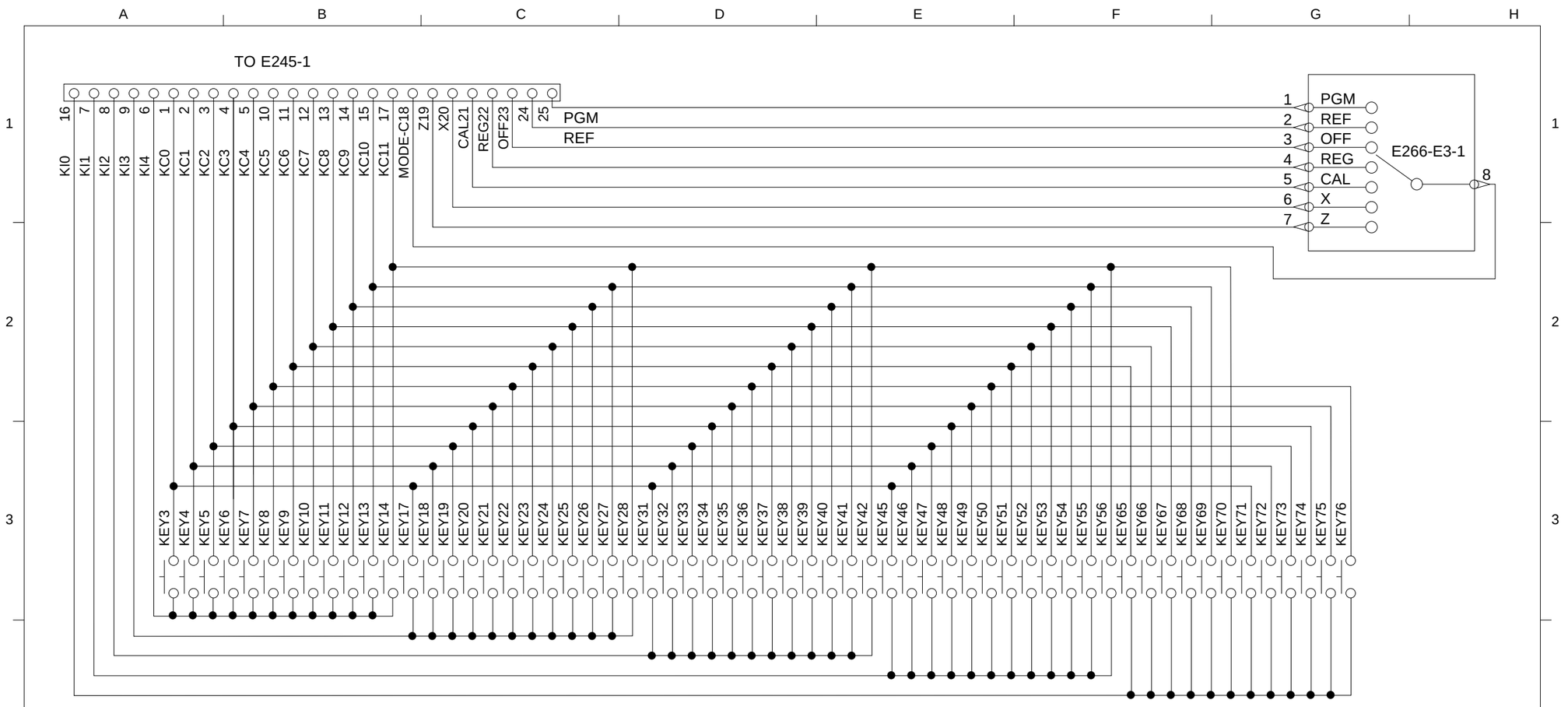
18 F1 17 G1 16 A1 15 B1 14 COM1 13 COM2 12 F2 11 A2 10 B2
E1 1 D1 2 C1 3 DP1 4 E2 5 D2 6 G2 7 C2 8 DP2 9
A1 F1 G1 B1 E1 C1 D1 DP1
A2 F2 G2 B2 E2 C2 D2 DP2
LED3
LED4
LED5
LED6
SF1 SG1 SA1 SB1 COM3 COM2 SF1 SA1 SB1
SF1 SG1 SA1 SB1 COM1 COM0 SF1 SA1 SB1
SF0 SG0 SA0 SB0 COM3 COM2 SF0 SA0 SB0
SF0 SG0 SA0 SB0 COM1 COM0 SF0 SA0 SB0
SE1 SD1 SC1 SE1 SD1 SG1 SC1
SE0 SD0 SC0 SDP0 SE0 SD0 SG0 SC0 SDP0
HDSP-5621(H, G) × 4
LED1
HLMP-S500 × 2
LED2
TO E240-E2 (MAIN DISPLAY)
CN3-1 COM3
CN3-2 COM2
CN3-3 COM1
CN2-9 COM0
CN3-4 STR
CN3-10 SG1
CN3-11 SF1
CN3-6 SE1
CN3-7 SD1
CN3-5 SC1
CN3-8 SB1
CN3-9 SA1
CN2-6 SDP0
CN2-4 SG0
CN2-3 SF0
CN2-8 SE0
CN2-7 SD0
CN2-5 SC0
CN2-2 SB0
CN2-1 SA0
120 Ω
Name
240CR/PCR-460
Board No.
POP UP DISPLAY
Drawing No.
E311444


TO E245-1
16 7 8 9 6 1 2 3 4 5 10 11 12 13 14 15 17 MODE-C18 Z19 X20 CAL21 REG22 OFF23 24 25
KI0 KI1 KI2 KI3 KI4 KC0 KC1 KC2 KC3 KC4 KC5 KC6 KC7 KC8 KC9 KC10 KC11
PGM
REF
1 PGM
2 REF
3 OFF
4 REG
5 CAL
6 X
7 Z
E266-E3-1
8
KEY3 KEY4 KEY5 KEY6 KEY7 KEY8 KEY9 KEY10 KEY11 KEY12 KEY13 KEY14 KEY17 KEY18 KEY19 KEY20 KEY21 KEY22 KEY23 KEY24 KEY25 KEY26 KEY27 KEY28 KEY31 KEY32 KEY33 KEY34 KEY35 KEY36 KEY37 KEY38 KEY39 KEY40 KEY41 KEY42 KEY45 KEY46 KEY47 KEY48 KEY49 KEY50 KEY51 KEY52 KEY53 KEY54 KEY55 KEY56 KEY65 KEY66 KEY67 KEY68 KEY69 KEY70 KEY71 KEY72 KEY73 KEY74 KEY75 KEY76

KEY CONTACT POSITION

						71	72	73	74	75	76
						65	66	67	68	69	70
45	46	47	48	49	50	51	52	53	54	55	56
31	32	33	34	35	36	37	38	39	40	41	42
17	18	19	20	21	22	23	24	25	26	27	28
3	4	5	6	7	8	9	10	11	12	13	14

Name	Board No.	Drawing No.
240CR/PCR-460	KEY BOARD	E340555

10. Parts list (200CR/PCR-360/PCR-365)

1. MAIN PCB BLOCK
2. UPPER CASE BLOCK
3. MAIN DISPLAY BLOCK
4. CUSTOMER DISPLAY BLOCK
5. KEYBOARD BLOCK
6. POWER SUPPLY BLOCK
7. LOWER CASE BLOCK
8. PRINTER BLOCK
9. WIND MOTOR BLOCK
10. PRINTER COVER BLOCK
11. OTHERS
12. DRAWER

    12-1. DL-1320 (U.S.)
    12-2. DL-2762 (Europe, U.K., Germany, other countries)

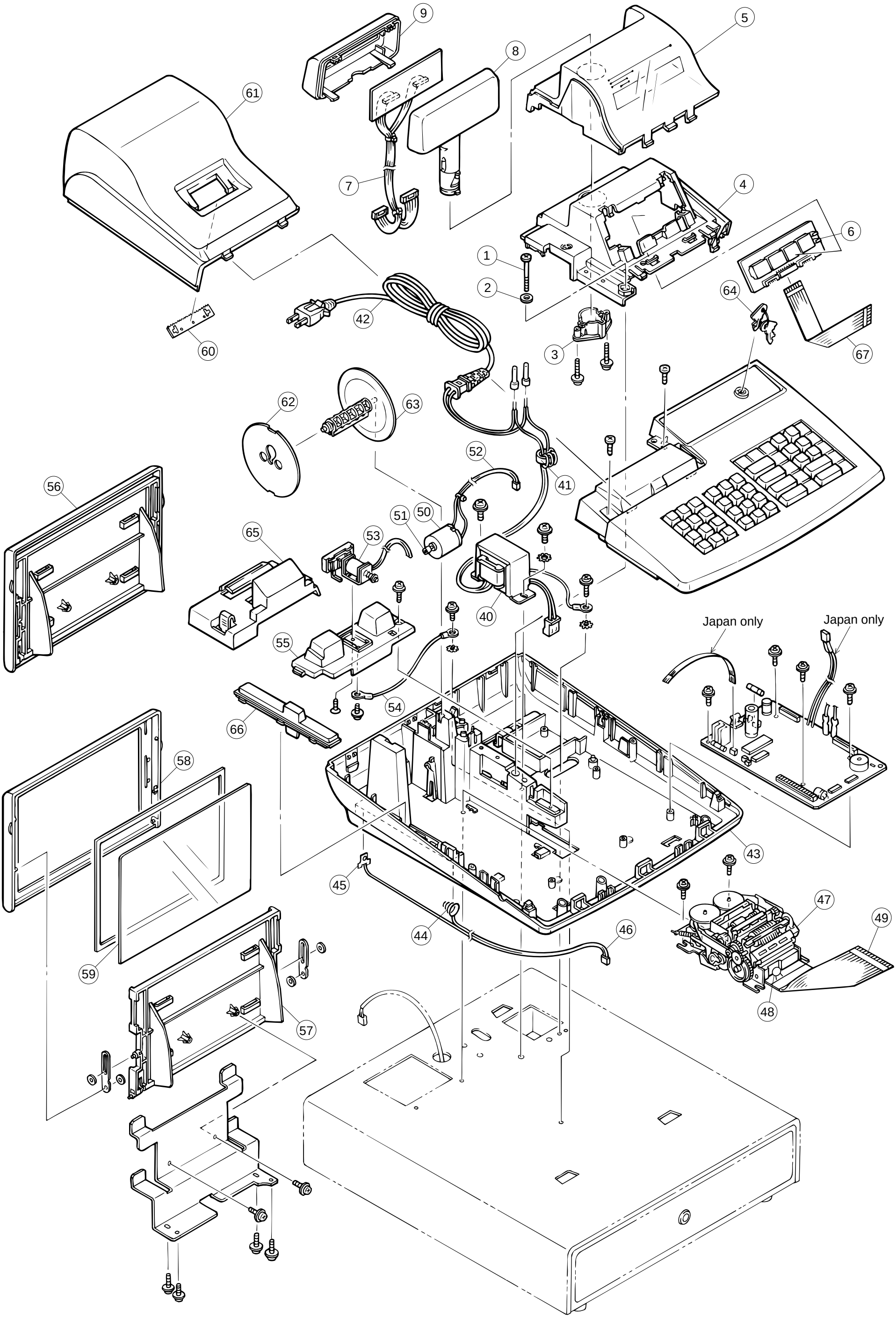
Notes:

1. Price and specifications are subject to change without notice.
2. As for order / supply of spare parts, refer to the “GUIDE BOOK for spare parts supply” a separate publication
3. The numbers in the item column correspond to the same numbers in exploded drawing.
4. MARKS:

   Q: Quantity used per unit

   R: Rank

   A: Essential
   B: Stock recommended
   C: Less recommended
   X: No stock recommended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Japan only
Japan only
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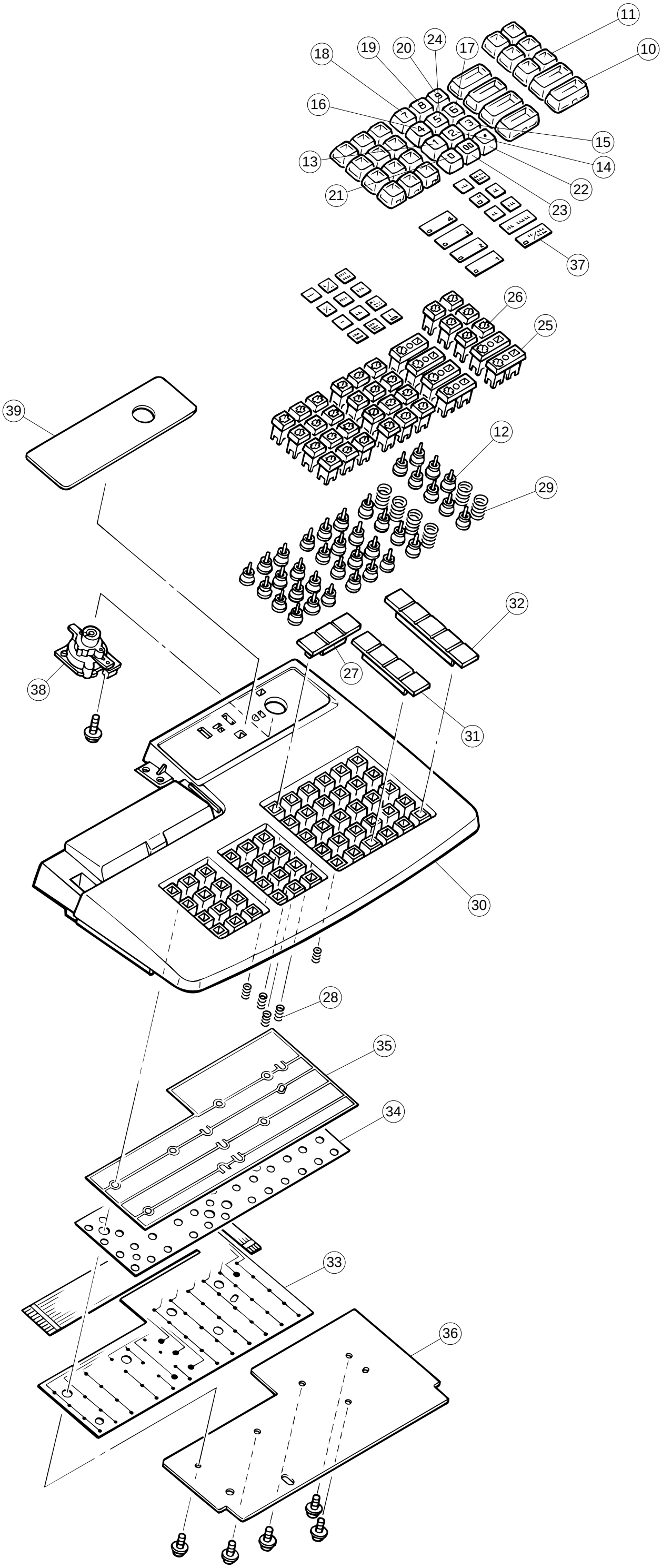
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PARTS LIST (200CR/PCR-360/PCR-365)

Item	Code No.	Parts Name	Specification	Version	Q	R
	1. MAIN PCB BLOCK					
	6193 2818	Main PCB ass'y E245-1	E240333*1	Other countries	1	C
	6193 2825	Main PCB ass'y E245-1	E240333*2	US-OSS	1	C
	6193 3784	Main PCB ass'y E245-1	E240333B*3	US-WHC	1	C
	6193 3791	Main PCB ass'y E245-1	E240333B*4	Canada-OSS	1	C
	6193 3798	Main PCB ass'y E245-1	E240333B*5	Canada-WHC	1	C
IC4	2006 1249	LSI	LC3564S70/85/10		1	A
IC7	2006 1585	LSI	UPD78054GC-213-3B9		1	A
IC5	2105 1169	IC	TC74HC373AP		1	A
IC2,3,9,10	2120 6741	Monolythic IC	BA12004		4	A
IC1	2120 6823	Liner IC	LM2575T-5.0/LB03		1	A
IC8	2120 7381	Reset IC	S-80730AN-Z		1	A
Q6,8,10,12	2210 7309	Transistor	2SB1240V2-Q,R		4	B
Q2,3,18	2220 2456	Transistor	2SC945(K,P,Q,R)-T		3	B
Q19	2230 4135	Transistor	2SD1853-AA		1	B
Q15	2230 5328	Transistor	2SD1933		1	B
Q4	2240 5367	Digital Transistor	DTD113ZS-TP-T		1	B
Q16	2250 1043	Transistor	2SB865-AE		1	B
Q17	2250 1323	Transistor	2SA933AS(QRS)TP		1	B
Q5,7,9,11	2250 1491	Digital transistor	DTC114YSA-TP-T		4	B
Q1	2253 0399	Power transistor	2SD1276A		1	A
D2~5,24,25	2301 0089	Diode	1SR35-100A-T-82-T		6	C
D1,6,8,10~22	2301 0101	Diode	1S2473-T-77-T		16	C
ZD1	2310 5284	Zener diode	RD13EB3-TN-T		1	C
D7	2310 9452	Schottky barrier diode	RK-14V		1	C
ZD2	2315 1120	Zener diode	RD5.6EB3-TN-T		1	C
D9	2315 3095	Schottky barrier diode	RB721Q-40T-77		1	C
D26	2390 0882	Schottky barrier diode	RB100AT-32		1	C
X1	2408 8261	Ceramic oscillator	CST5.00MGW		1	C
X2	2520 3445	Crystal oscillator	C-002RX(M90-76)		1	C
R4		Carbon film resistor	R50XT-08J202		1	X
R55		Carbon film resistor	CR-25-6.8KOHMJ-T		1	X
R5,54		Carbon film resistor	CR-25-2.2KOHMJ-T		2	X
R60		Carbon film resistor	CR-25-200OHMJ-T		1	X
R10,14,19,20, 21,22,26,		Carbon film resistor	CR-25-100OHMJ-T		7	X
R1,46		Carbon film resistor	CR-25-560OHMJ-T		2	X
R31		Carbon film resistor	CR-25-820OHMJ-T		1	X
R8,42,57		Carbon film resistor	CR-25-1KOHMJ-T		3	X
R32		Carbon film resistor	CR-25-2KOHMJ-T		1	X
R3,29,36		Carbon film resistor	CR-25-3.9KOHMJ-T		3	X
R7,52,59		Carbon film resistor	CR-25-4.7KOHMJ-T		3	X
R33		Carbon film resistor	CR-25-8.2KOHMJ-T		1	X
R9,15,16,17, R18,28,49, R53,56,58		Carbon film resistor	CR-25-10KOHMJ-T		10	X
R11,12,13, R27,37,38, R40,43,44		Carbon film resistor	CR-25-56KOHMJ-T		9	X
R51		Carbon film resistor	CR-25-100KOHMJ-T		1	X
R39		Carbon film resistor	CR-25-330KOHMJ-T		1	X
R50		Carbon film resistor	CR-25-1MOHMJ-T		1	X
R34		Carbon film resistor	CR-25-20KOHM-J-T		1	X

Item	Code No.	Parts Name	Specification	Version	Q	R
R2		Carbon film resistor	CR-25-1.2KOHM-J-T		1	X
R41		Carbon film resistor	CR-25-5.6KOHMJ-T		1	X
R48		Metal film resistor	CRH200-FH24-J-101		1	X
RA3		Module resistor	MS5635F		1	X
RA1		Module resistor	MS1038F		1	X
RA2		Module resistor	MS1036F		1	X
C7,8,14,17, C18,22,23,24, C26		TF capacitor	ECQ-V1H-104-JZ3		9	X
C6	2807 3533	Electrolytic capacitor	RE2-25V330MMA-T2		1	C
C5	2807 3540	Electrolytic capacitor	RE2-25V331MMA-T2		1	C
C3	2807 3547	Electrolytic capacitor	RE3-35V470MMA-T2		1	C
C25	2807 3554	Electrolytic capacitor	RE2-35V221MMA-T2		1	C
C2	2807 3561	Electrolytic capacitor	RE3-35V332M-T		1	C
C13,20		Ceramic capacitor	RT-HE50TKYB102K-T		2	X
C12		Ceramic capacitor	RT-HE40TKYB471K-T		1	X
C4,9,10,19		Ceramic capacitor	RT-HE40TKYB101K-T		4	X
C21		Ceramic capacitor	RT-HE12TKYB103K-T		1	X
C16		Ceramic capacitor	RT-HE40TKCH150J-T		1	X
C15		Ceramic capacitor	RT-HE40TKCH120J-T		1	X
CA1,2,4		Module capacitor	CNB5X101K		3	X
C1		Mylar capacitor	50F2S683J		1	X
CA3		Module capacitor	CNB7X101K		1	X
L1		Inductor	OWA1419-681K		1	X
F1	3000 7196	Fuse	218002	Other countries	1	A
F1	3631 0329	Fuse	237002	US, Canada	1	A
F2	3631 0328	Fuse	UL-TSCR-0.8A		1	A
F1	3640 2331	Fuse clip	UF-0033		2	C
BZ1	3122 1589	Sounducer	PKM22EPP-2002		1	C
CN9	3500 3371	Connector 2P	IL-G-2P-S3T2-E		1	C
CN2	3500 5831	PCB connector	52045-2045		1	C
CN13	3500 5832	PCB connector	5229-22APB		1	C
CN11	3500 5846	Connector	53253-0210		1	C
CN12	3501 6244	Connector	B2B-PH-K-S		1	C
CN1	3510 2680	Pin ass'y 2P	5277-02A		1	C
CN7	3540 5081	PCB connector	52045-2545		1	C
		Heat sink	OSH-1625-SP		1	X
		PCB E245-1 (without components)	E240345-1		1	X
	2. UPPER CASE BLOCK					
1	6247 8807	Screw	4X85 ZMC-3		1	X
2	5460 0021	Washer	4X9X0.8 ZMC-3		1	X
3	6220 2505	Display bush	E310377-1		1	X
4	6247 6455	Upper case E245	E140123-1		1	X
5	6247 6462	Display window	E140124-1		1	C
67	6221 3783	FFC joiner B	E411354-2		1	A
	3. MAIN DISPLAY BLOCK					
	2320 1365	LED	HDSP-5621#S02		4	B
		Carbon film resistor	ERD25TJ121V		8	X
		Carbon film resistor	ERDS2TJ121V		7	X
	3500 5833	PCB connector	52044-2045		1	C
	3500 5834	Pin ass'y 9P	53254-0910		1	C
	3500 5835	Pin ass'y 11P	53254-1110		1	C
	4306 1004	PCB E240-E2 (without components)	E311067A-1		1	C

Item	Code No.	Parts Name	Specification	Version	Q	R
	4. CUSTOMER DISPLAY BLOCK					
	2320 1365	LED	HDSP-5621#S02		4	B
		Carbon film resistor	ERD25TJ121V		8	X
		Carbon film resistor	ERDS2TJ121V		7	X
	4306 1004	PCB E240-E2 (without components)	E311067A-1		1	C
7	6191 0334	Connector ass'y	E311301*1		1	B
8	6247 6469	Display case E245	E240325-1		1	C
9	6247 6476	Rear case E245	E240326-1		1	C
	5. KEYBOARD BLOCK					
10	6221 3988	L cap	E210964-1	Other countries	6	C
10	6221 3988	L cap	E210964-1	US	1	C
10	6221 3988	L cap	E210964-1	Canada	11	C
11	6221 4025	S cap	E311103-1	Other countries	16	C
11	6221 4025	S cap	E311103-1	US	40	C
11	6221 4025	S cap	E311103-1	Canada	20	C
12	6245 3530	Key contact rubber	E411877-1	Other countries	34	C
12	6245 3530	Key contact rubber	E411877-1	US	53	C
12	6245 3530	Key contact rubber	E411877-1	Canada	43	C
13	6245 7250	S button E238-1	E311792-1		1	C
14	6245 7260	S button E238-2	E311792-2		1	C
15	6245 7270	S button E238-3	E311792-3		1	C
16	6245 7280	S button E238-4	E311792-4		1	C
17	6245 7290	S button E238-6	E311792-5		1	C
18	6245 7300	S button E238-7	E311792-6		1	C
19	6245 7310	S button E238-8	E311792-7		1	C
20	6245 7320	S button E238-9	E311792-8		1	C
21	6245 7330	S button E238-0	E311792-9		1	C
22	6245 7340	S button E238-.	E311792-10		1	C
23	6245 7350	S button E238-00	E311792-11		1	C
24	6245 7360	5 button E238	E311116-4		1	C
25	6246 7768	L button	E210963A-4	Other countries	6	C
25	6246 7768	L button	E210963A-4	US	1	C
25	6246 7768	L button	E210963A-4	Canada	11	C
26	6246 7810	S button	E311101A-4	Other countries	28	C
26	6246 7810	S button	E311101A-4	US	52	C
26	6246 7810	S button	E311101A-4	Canada	32	C
28	6247 3830	Coil spring A	E411104A-1	Other countries	6	B
28	6247 3830	Coil spring A	E411104A-1	US	1	B
28	6247 3830	Coil spring A	E411104A-1	Canada	11	B
29	6247 3837	Coil spring B	E411104A-2		5	B
30	6247 6315	Keyboard frame	E140119-1		1	X
31	6247 6343	Button filler 4S	E311265-4	Other countries	1	C
32	6247 6350	Button filler 5S	E311265-5	Other countries	2	C
33	6247 6357	FPC E245	E240323-1		1	A
34	6247 6364	Spacer	E340397-1		1	A
35	6247 6371	Common sheet	E340398-1		1	A
36	6247 6378	Keyboard chassis	E340412-1		1	X
37	6247 6910	Plate sub ass'y	E240347A*3	Other countries	1	X
37	6247 6896	Plate sub ass'y	E240347A*1	US	1	X
37	6247 6903	Plate sub ass'y	E240347A*2	Canada	1	X
38	6192 4970	Mode key switch ass'y	E311944*1		1	C
39	6247 6399	Mode key plate	E440374-1	Other countries	1	X
39	6247 6406	Mode key plate	E440374-2	US-OSS, Canada-OSS	1	X
39	6247 6413	Mode key plate	E440374-3	US-WHC, Canada-WHC	1	X
		Screw	3X8 ZMC-3.....		6	X

Item	Code No.	Parts Name	Specification	Version	Q	R
	6. POWER SUPPLY BLOCK					
40	3000 3013	Power transformer	TE-240-E3U	Other countries	1	A
40	3000 3015	Power transformer	TE-240-E4D	US,Canada	1	A
41	3030 4055	Ferritte core	L5T18X6X10		1	X
	3600 1046	Voltage selector	S-J2875-05		1	X
42	3701 0221	Power cord	PS5006-B	Other countries	1	C
42	3700 4281	Power cord	PS204	US, Canada, Other countries	1	C
42	3700 4279	Power cord	M2511A	Other countries	1	C
42	3700 4283	Power cord	M3203	Other countries	1	C
	7. LOWER CASE BLOCK					
43	6247 6385	Lower case E245A	E140118-1		1	X
44	6000 6091	Battery spring G67	A43656-1		1	C
45	6345 2238	Battery spring A-G55	A42606B-1		1	C
46	6193 3805	Battery connector ass'y	E311297A*2		1	C
	8. PRINTER BLOCK					
47	1000 8133	Printer unit	M-405R-009-28		1	A
48	2819 5542	Ceramic capacitor	HE12TJYB103K		1	B
49	6247 7162	FFC joiner AA240	E411355A-1		1	B
	9. WIND MOTOR BLOCK					
50	3200 3672	Motor	MXN-13FB12F		1	C
51	6231 6837	Winder rubber	E410716A-1		1	C
52	6191 0122	Motor connector ass'y	E311086*1		1	C
	10. PRINTER COVER BLOCK					
60	6231 3668	Paper cutter	E42592A-1		1	X
61	6247 6483	Printer cover	E140120-1		1	X
	11. OTHERS					
62	6221 4029	Paper holding spool	E411393-1		1	C
63	6246 1830	Winder pulley	E311860-1		1	C
64	6246 4000	Key set sub ass'y	E312046*2	Other countries	1	C
64	6246 4010	Key set sub ass'y	E312046*3	US, Canada	1	C
55	6247 6392	Stamp stand	E240329-1		1	X
65	6247 8814	Ribbon cover	E240315-1		1	X
66	6247 8821	Battery cover	E340406-1		1	C
	6247 8562	Dust cover	E240392-1		1	X
		Screw with washer	3X8 ZMC-3.....		5	X
		Screw with washer	4X8 ZMC-3.....		1	X
		Nut	SB-3001		1	X
		Screw with washer	4X8 ZMC-3		2	X
		Washer	4		3	X
		Screw with washer	3X8 ZMC-3		3	X
		Screw	3X8		1	X
		Screw (+)	3X8 ZMC-3		1	X
		Screw	3X20 ZMC-3..		2	X

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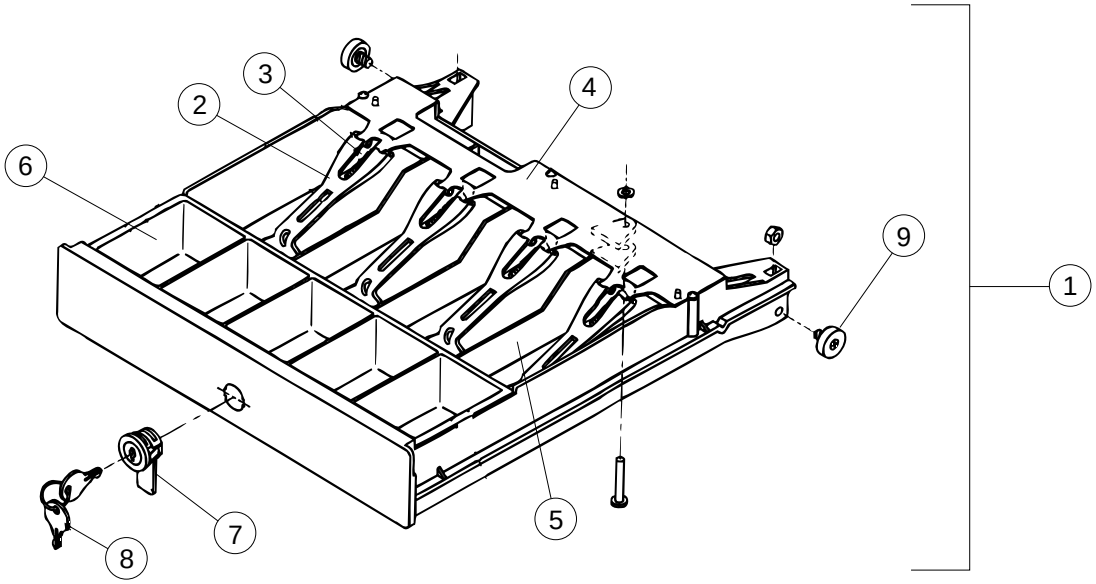

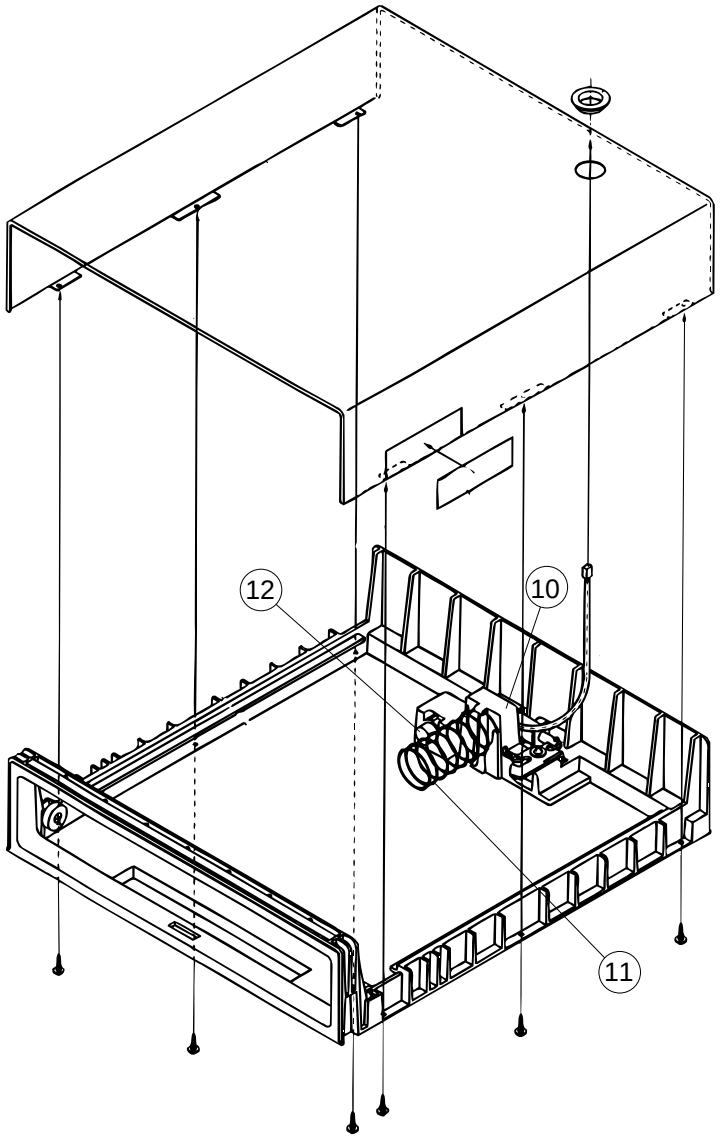

Item	Code No.	Parts Name	Specification	Version	Q	R
	12. DRAWER					
	12-1. DL-1320 (U.S.)					
	6247 6497	Drawer unit	E440386*3		1	C
1	6193 3140	Bill/Coin case ass'y	E240112*2		0	C
2	6221 4902	Bill holder	ZD18931		4	A
3	6246 5220	Bill holder spring	E412160-1		4	A
4	6246 6571	Bill holder fixing plate	E311873-1		1	C
5	6246 6585	Partition plate	E340010-5		3	B
6	6246 8510	Coin case	E340117-2		1	B
7	6246 4960	Cylinder lock ass'y	E311950*1		1	B
8	6246 5320	Cylinder key	E412059-1		2	B
9	5500 0878	Roller	DR-19B2		4	A
10	5500 0934	Solenoid ass'y	STC-06UB-102		1	A
	5580 1461	Lock spring	ZD03441-A		1	B
	6246 4940	Hook lever	E311876-1		1	B
	6246 5020	Hook lever shaft	E412071-1		1	B
11	6246 6522	Push spring	E412137-1		1	B
12	6246 6557	Damper rubber	E440023-1		1	C

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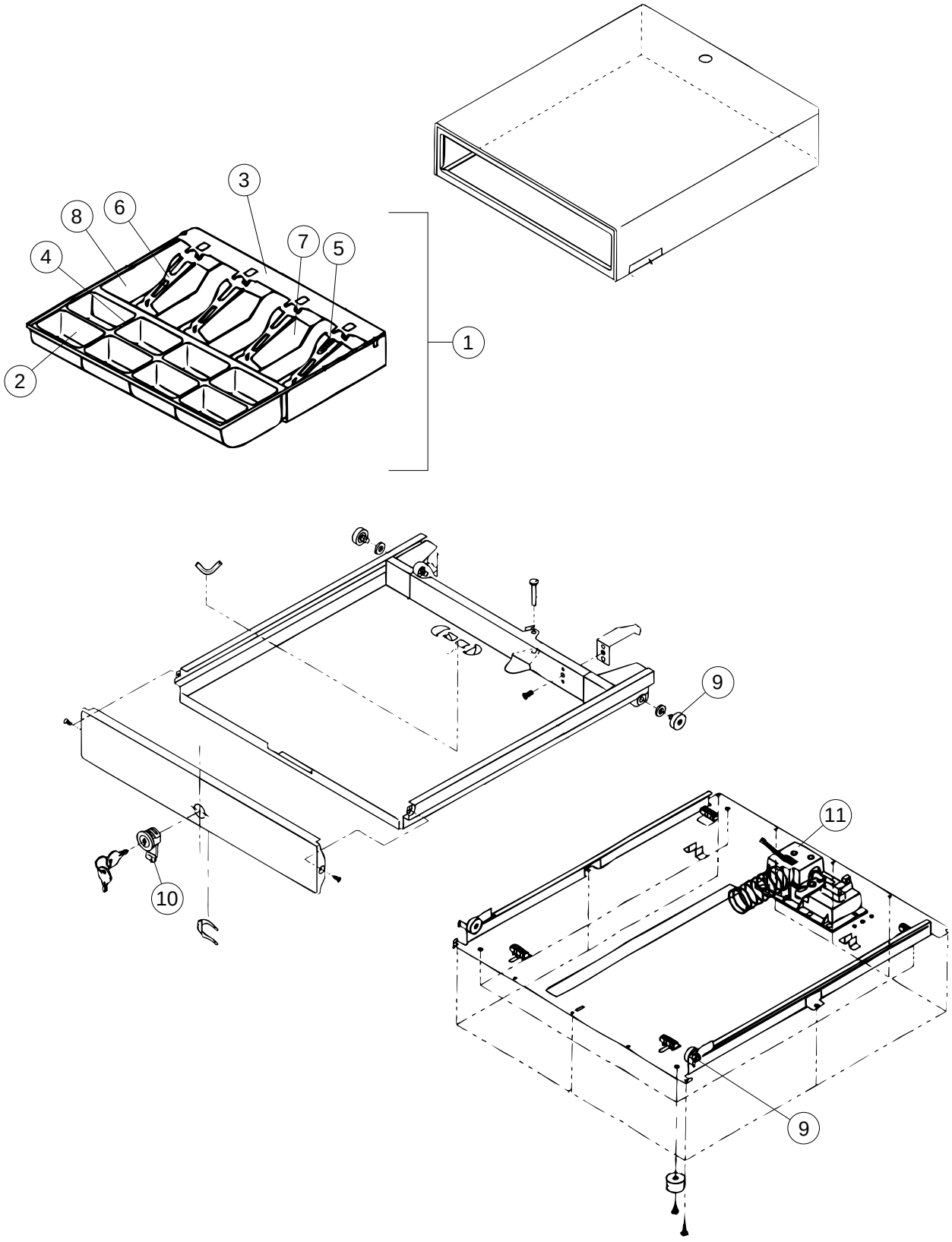

Item	Code No.	Parts Name	Specification	Version	Q	R
12-2. DL-2762 (Europe, U.K., Germany, other countries)						
	6247 6448	Drawer unit	E440128A*13		1	C
1	6192 7953	Bill/Coin case ass'y	E140034*3		1	C
2	6247 3935	Coin case	E140058-1		1	C
3	6246 5230	Bill holder fixing plate	E211620-1		1	C
4	6247 3949	Coin separater	E340173-1		6	B
5	6246 5220	Bill holder spring	E412160-1		4	A
6	6221 4902	Bill holder	ZD18931		4	A
7	6221 4911	Partition plate	ZD43652		3	C
8	6247 4964	Bill case	E140056A-1		1	C
9	5800 0043	Roller	DR-19B-1.0		4	A
10	6221 4900	Cylinder lock	ZD20025		1	B
11	6192 6315	Lock ass'y	E211680*3		1	A
	3000 7266	Solenoid ass'y	STC-08A-102T		1	A
	5580 1461	Lock spring	ZD03441-A		1	C
	6246 4940	Hook lever	E311876-1		1	C
	6246 5010	Push spring	E412069-1		1	C
	6246 5020	Hook lever shaft	E412071-1		1	C
	6246 6865	Lock fixing stand	E211622A-1		1	C

11. Parts list (240CR/PCR-460)

1. MAIN PCB BLOCK
2. UPPER CASE BLOCK
3. MAIN DISPLAY BLOCK
4. CUSTOMER DISPLAY BLOCK
5. KEYBOARD BLOCK
6. POWER SUPPLY BLOCK
7. LOWER CASE BLOCK
8. PRINTER BLOCK
9. WIND MOTOR BLOCK
10. STAMP STAND BLOCK
11. POP PANEL BLOCK
12. PRINTER COVER BLOCK
13. OTHERS
14. DRAWER

    14-1. DL-1320 (U.S.)
    14-2. DL-2762 (Canada, other countries)
    14-3. DL-1832 (Europe, other countries)

Notes:

1. Price and specifications are subject to change without notice.
2. As for order / supply of spare parts, refer to the “GUIDE BOOK for spare parts supply” a separate publication
3. The numbers in the item column correspond to the same numbers in exploded drawing.
4. MARKS:

   Q: Quantity used per unit

   R: Rank

   A: Essential
   B: Stock recommended
   C: Less recommended
   X: No stock recommended

PARTS LIST (240CR/PCR-460)

Item	Code No.	Parts Name	Specification	Version	Q	R
	1. MAIN PCB BLOCK					
	6193 2636	Main PCB ass'y E246-1	E240337*2	US	1	C
	6193 2643	Main PCB ass'y E246-1	E240337*3	Except US	1	C
IC6	2006 1109	EEPROM	BR93LC66A	Except US	1	A
IC4	2006 1249	LSI	LC3564S70/85/10	Except US	1	A
IC4	2006 1319	LSI	CXK58257AP-70/10L	US	1	A
IC7	2006 1592	LSI	UPD78054GC-214-3B9		1	A
IC5	2105 1169	C-MOS IC	TC74HC373AP		1	A
IC2,3,9,10	2120 6741	Monolythic IC	BA12004		4	A
IC1	2120 6823	Liner IC	LM2575T-5.0/LB03		1	A
IC8	2120 7381	Reset IC	S-80730AN-Z		1	A
Q6,8,10,12	2210 7309	Transistor	2SB1240V2-Q,R		4	B
Q2,3,18	2220 2456	Transistor	2SC945(K,P,Q,R)-T		3	B
Q14,19	2230 4135	Transistor	2SD1853-AA		2	B
Q15	2230 5328	Transistor	2SD1933		1	B
Q4,13	2240 5367	Digital transistor	DTD113ZS-TP-T		2	B
Q16	2250 1043	Transistor	2SB865-AE		1	B
Q17	2250 1323	Transistor	2SA933AS(QRS)TP		1	B
Q5,7,9,11	2250 1491	Digital transistor	DTC114YSA-TP-T		4	B
Q1	2253 0399	Power transistor	2SD1276A		1	A
D2~5,D23~25	2301 0089	Diode	1SR35-100A-T-82-T		7	C
D1,6,8,10~22	2301 0101	Diode	1S2473-T-77-T		16	C
ZD1	2310 5284	Zener diode	RD13EB3-TN-T		1	C
D7	2310 9452	Schottky barrier diode	RK-14V		1	C
ZD2	2315 1120	Zener diode	RD5.6EB3-TN-T		1	C
D9	2315 3095	Schottky barrier diode	RB721Q-40T-77		1	C
D26	2390 0882	Schottky barrier diode	RB100AT-32		1	C
X1	2408 8261	Ceramic oscillator	CST5.00MGW		1	C
X2	2520 3445	Crystal oscillator	C-002RX(M90-76)		1	C
R4		Carbon film resistor	R50XT-08J202		1	X
R55		Carbon film resistor	CR-25-6.8KOHMJ-T		1	X
R5,54		Carbon film resistor	CR-25-2.2KOHMJ-T		2	X
R60		Carbon film resistor	CR-25-200OHMJ-T		1	X
R10,14,19,20, R21,22,26		Carbon film resistor	CR-25-100OHMJ-T		7	X
R1,46		Carbon film resistor	CR-25-560OHMJ-T		2	X
R31		Carbon film resistor	CR-25-820OHMJ-T		1	X
R8,42,57		Carbon film resistor	CR-25-1KOHMJ-T		3	X
R24,32		Carbon film resistor	CR-25-2KOHMJ-T		2	X
R3,29,36		Carbon film resistor	CR-25-3.9KOHMJ-T		3	X
R7,52,59		Carbon film resistor	CR-25-4.7KOHMJ-T		3	X
R33		Carbon film resistor	CR-25-8.2KOHMJ-T		1	X
R9,15,16,17, R18,25,28,49, R53,56,58		Carbon film resistor	CR-25-10KOHMJ-T		11	X
R11,12,13,27, R37,38,40,43, R44,47		Carbon film resistor	CR-25-56KOHMJ-T		10	X
R51		Carbon film resistor	CR-25-100KOHMJ-T		1	X
R39		Carbon film resistor	CR-25-330KOHMJ-T		1	X
R50		Carbon film resistor	CR-25-1MOHMJ-T		1	X
R34		Carbon film resistor	CR-25-20KOHM-J-T		1	X
R2		Carbon film resistor	CR-25-1.2KOHM-J-T		1	X

Item	Code No.	Parts Name	Specification	Version	Q	R
R41		Carbon film resistor	CR-25-5.6KOHMJ-T		1	X
R48		Metal film resistor	CRH200-FH24-J-101		1	X
R35		Metal film resistor	CRH100-FH11J-2R2		1	X
RA3		Module resistor	MS5635F		1	X
RA1		Module resistor	MS1038F		1	X
RA2		Module resistor	MS1036F		1	X
C7,8,11,14, C17,18,22,23, C24,26		TF capacitor	ECQV1H104JZ3		10	X
C6	2807 3533	Electrolytic capacitor	RE2-25V330MMA-T2		1	C
C5	2807 3540	Electrolytic capacitor	RE2-25V331MMA-T2		1	C
C3	2807 3547	Electrolytic capacitor	RE3-35V470MMA-T2		1	C
C25	2807 3554	Electrolytic capacitor	RE2-35V221MMA-T2		1	C
C2	2807 3561	Electrolytic capacitor	RE3-35V332M-T		1	C
C13,20		Ceramic capacitor	RT-HE50TKYB102K-T		2	X
C12		Ceramic capacitor	RT-HE40TKYB471K-T		1	X
C4,9,10,19		Ceramic capacitor	RT-HE40TKYB101K-T		4	X
C21		Ceramic capacitor	RT-HE12TKYB103K-T		1	X
C16		Ceramic capacitor	RT-HE40TKCH150J-T		1	X
C15		Ceramic capacitor	RT-HE40TKCH120J-T		1	X
CA1,2,4		Module capacitor	CNB5X101K		3	X
C1		Mylar capacitor	50F2S683J		1	X
CA3		Module capacitor	CNB7X101K		1	X
L1		Inducter	OWA1419-681K		1	X
F1	3000 7196	Fuse	218002		1	A
F1	3631 0329	Fuse	237002	US	1	A
F2	3631 0328	Fuse	UL-TSCR-0.8A		1	A
F1	3640 2331	Fuse clip	UF-0033		2	X
IC6	3000 7567	IC socket	DILB8P-8JK		1	X
BZ1	3122 1589	Sounducer	PKM22EPP-2002		1	C
CN9	3500 3371	Connector 2P	IL-G-2P-S3T2-E		1	C
CN2	3500 5831	PCB connector	52045-2045		1	C
CN13	3500 5832	PCB connector	5229-22APB		1	C
CN11	3500 5846	Connector	53253-0210		1	C
CN12	3501 6244	Connector	B2B-PH-K-S		1	C
CN1	3510 2680	Pin ass'y 2P	5277-02A		1	C
		Heat sink	OSH-1625-SP		1	X
CN5,6		Fasten tab	22019		2	X
		PCB E245-1 (without components)	E240345-1		1	X
	2. UPPER CASE BLOCK					
1	6247 8807	Screw	4X85 ZMC-3		1	X
2	5460 0021	Washer	4X9X0.8 ZMC-3		1	X
3	6220 2505	Display bush	E310377-1		1	X
67	6221 3783	FFC joiner B-E240	E411354-2		1	A
4	6247 6455	Upper case	E140123-1	Except Europe, UK,Germany	1	X
4	6247 8849	Upper case	E140123-3	Europe, UK, Germany	1	X
5	6247 6665	Display plate E246B	E140124-3		1	X
	3. MAIN DISPLAY BLOCK					
	2320 1365	LED	HDSP-5621#S02		4	B
	2320 1366	LED	HLMP-S500		2	B

Item	Code No.	Parts Name	Specification	Version	Q	R
		Carbon film resistor	ERD25TJ121V		9	X
		Carbon film resistor	ERDS2TJ121V		7	X
	3500 5833	PCB connector	52044-2045		1	C
	3500 5834	Pin ass'y 9P	53254-0910		1	C
	3500 5835	Pin ass'y 11P	53254-1110		1	C
	4306 1004	PCB E240-E2 (without components)	E311067A-1		1	X
6	6221 3781	LED spacer	E411332-1		1	X
	4. CUSTOMER DISPLAY BLOCK					
	2320 1365	LED	HDSP-5621#S02		4	B
	2320 1366	LED	HLMP-S500		2	B
		Carbon film resistor	ERD25TJ121V		9	X
		Carbon film resistor	ERDS2TJ121V		7	X
	4306 1004	PCB E240-E2 (without components)	E311067A-1		1	X
7	6191 0334	Connector ass'y	E311301*1		1	A
8	6247 6469	Display case	E240325-1		1	C
9	6247 6679	Rear case E246B	E240326-3		1	C
6	6221 3781	LED spacer	E411332-1		1	X
	5. KEYBOARD BLOCK					
10	6221 3988	L cap	E210964-1		6	C
10	6221 3988	L cap	E210964-1	US	1	C
11	6221 4025	S cap	E311103-1		18	C
11	6221 4025	S cap	E311103-1	US	40	C
12	6245 3530	Key contact rubber	E411877-1		36	C
12	6245 3530	Key contact rubber	E411877-1	US	53	C
13	6245 7250	S button E238-1	E311792-1		1	C
14	6245 7260	S button E238-2	E311792-2		1	C
15	6245 7270	S button E238-3	E311792-3		1	C
16	6245 7280	S button E238-4	E311792-4		1	C
17	6245 7290	S button E238-6	E311792-5		1	C
18	6245 7300	S button E238-7	E311792-6		1	C
19	6245 7310	S button E238-8	E311792-7		1	C
20	6245 7320	S button E238-9	E311792-8		1	C
21	6245 7330	S button E238-0	E311792-9		1	C
22	6245 7340	S button E238-.	E311792-10		1	C
23	6245 7350	S button E238-00	E311792-11		1	C
24	6245 7360	5 button E238	E311116-4		1	C
25	6246 7768	L button E266	E210963A-4		6	C
25	6246 7768	L button E266	E210963A-4	US	1	C
26	6246 7810	S button E266	E311101A-4		30	C
26	6246 7810	S button E266	E311101A-4	US	52	C
27	6247 1478	Button filler 3S	E311197-2		1	C
28	6247 3830	Coil spring A	E411104A-1		6	A
28	6247 3830	Coil spring A	E411104A-1	US	1	A
29	6247 3837	Coil spring B	E411104A-2		5	A
30	6247 6315	Button frame	E140119-1		1	X
31	6247 6343	Button filler 4S	E311265-4		1	C
32	6247 6350	Button filler 5S	E311265-5		1	C
33	6247 6357	FPC E245	E240323-1		1	A
34	6247 6364	Spacer	E340397-1		1	A
35	6247 6371	Common sheet	E340398-1		1	A
36	6247 6378	Keyboard chassis	E340412-1		1	X
37	6247 6910	Plate sub ass'y	E240347A*3	Except US	1	X

Item	Code No.	Parts Name	Specification	Version	Q	R
37	6247 6869	Plate sub ass'y	E240347*1	US	1	X
38	6192 4970	Mode key ass'y	E311944*1		1	C
39	6247 6539	Mode key plate E246B	E440374-6		1	X
39	6247 6546	Mode key plate E246C	E440374-7	US	1	X
		Screw with washer	3X8 ZMC-3.....		6	X
	6. POWER SUPPLY BLOCK					
40	3000 3013	Power transformer	TE-240-E3U	Except US	1	A
40	3000 3015	Power transformer	TE-240-E4D	US	1	A
41	3030 4055	Ferrite core	L5T18X6X10		1	X
	3600 1046	Voltage selector	S-J2875-05	Other countries	1	X
42	3701 0221	Power cord	PS5006-B	UK, Other countries	1	C
42	3700 4281	Power cord	PS204	US, Other countries	1	C
42	3700 4279	Power cord	M2511A	Europe, Germany, Other countries	1	C
42	3700 4283	Power cord	M3203	Other countries	1	C
	7. LOWER CASE BLOCK					
43	6247 6385	Lower case E245A	E140118-1		1	X
44	6000 6091	Battery spring G67	A43656-1		1	C
45	6345 2238	Battery spring A-G55	A42606B-1		1	C
46	6191 0121	Battery connector ass'y	E311297*1		1	C
	8. PRINTER BLOCK					
47	1000 8133	Printer unit	M-405R-009-28		1	A
48	2819 5542	Ceramic capacitor	HE12TJYB103K		1	B
49	6247 7162	FFC joiner AA240	E411355A-1		1	B
	9. WIND MOTOR BLOCK					
50	3200 3672	Motor	MXN-13FB12F		1	C
51	6231 6837	Winder rubber	E410716A-1		1	C
52	6191 0122	Motor connector ass'y	E311086*1		1	C
	10. STAMP STAND BLOCK					
53	5500 0647	Solenoid	STC-06UB-330P		1	C
54	6191 0335	FG wire ass'y	E411602*1		1	X
55	6247 6392	Stamp stand	E240329-1		1	X
		Screw	3X6 ZMC-3		1	X
	11. POP PANEL BLOCK					
56	6193 2699	POP panel ass'y	E340460*1		1	C
57	6247 6630	POP case	E140130-1		1	X
58	6247 6693	POP panel	E140129-1		1	X
59	6247 6707	Paper cover	E340440-1		1	C
		Screw	3X8 ZMC-3.....		2	X
		Push nut	2 SUS		4	X
		POP metal	E240379-1		1	X
		POP stay	E440411-1		2	X
	12. PRINTER COVER BLOCK					
60	6231 3668	Paper cutter	E42592A-1		1	X
61	6247 6483	Printer cover	E140120-1		1	X

Item	Code No.	Parts Name	Specification	Version	Q	R
	13. OTHERS					
62	6221 4029	Paper holding spool	E411393-1		1	C
63	6246 1830	Wind pulley	E311860-1		1	C
64	6246 4000	Key set	E312046*2		1	C
64	6246 4010	Key set	E312046*3	US	1	C
65	6247 8814	Ribbon cover	E240315-1		1	X
66	6247 8821	Battery cover	E340406-1		1	C
	6247 8562	Dust cover	E240392-1		1	X
		Screw (+)	4X85 ZMC-3		1	X
		Screw	3X8 ZMC-3.....		5	X
		Screw	4X8 ZMC-3.....		1	X
		Nut	SB-3001		1	X
		Screw with washer(+)	4X8 ZMC-3		2	X
		Screw with washer	3X8 ZMC-3		4	X
		Screw with washer	3X10 ZMC-3...		4	X
		Screw with washer	3X8		1	X
		Washer	4		4	X
		Screw (+)	3X8 ZMC-3		1	X

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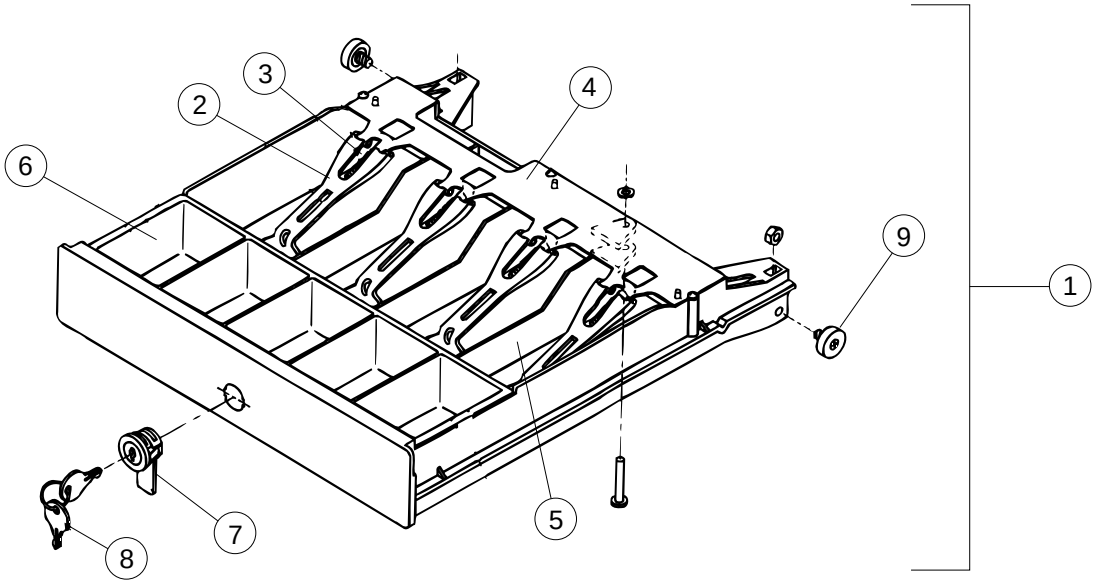
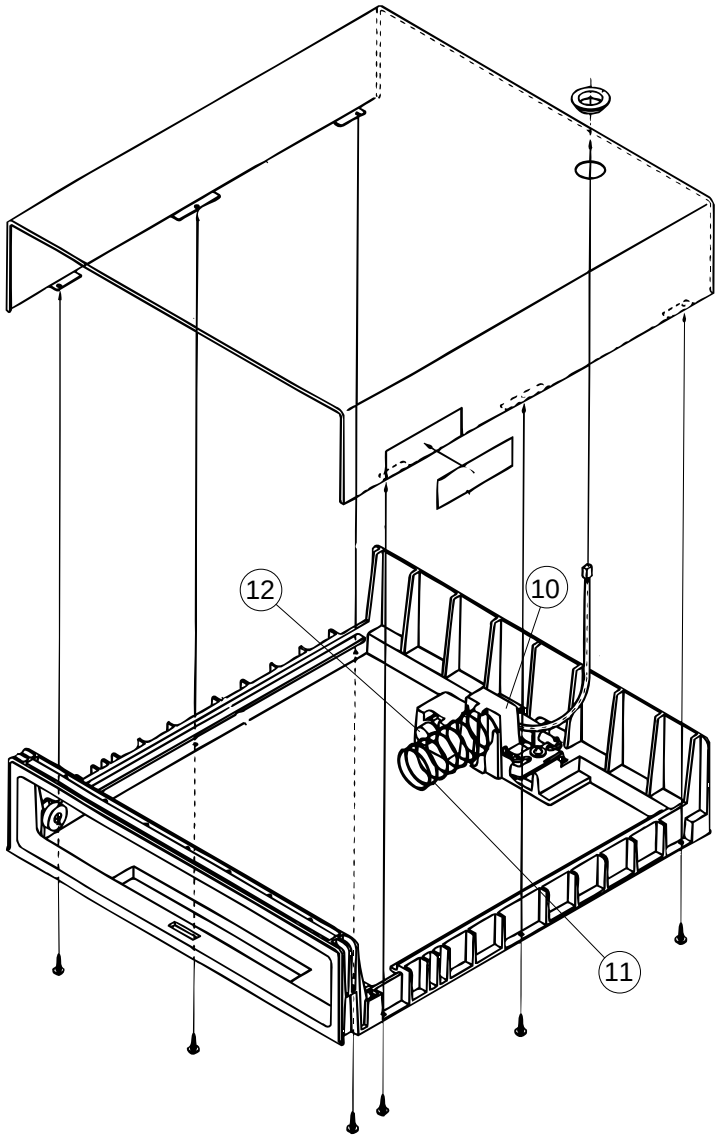
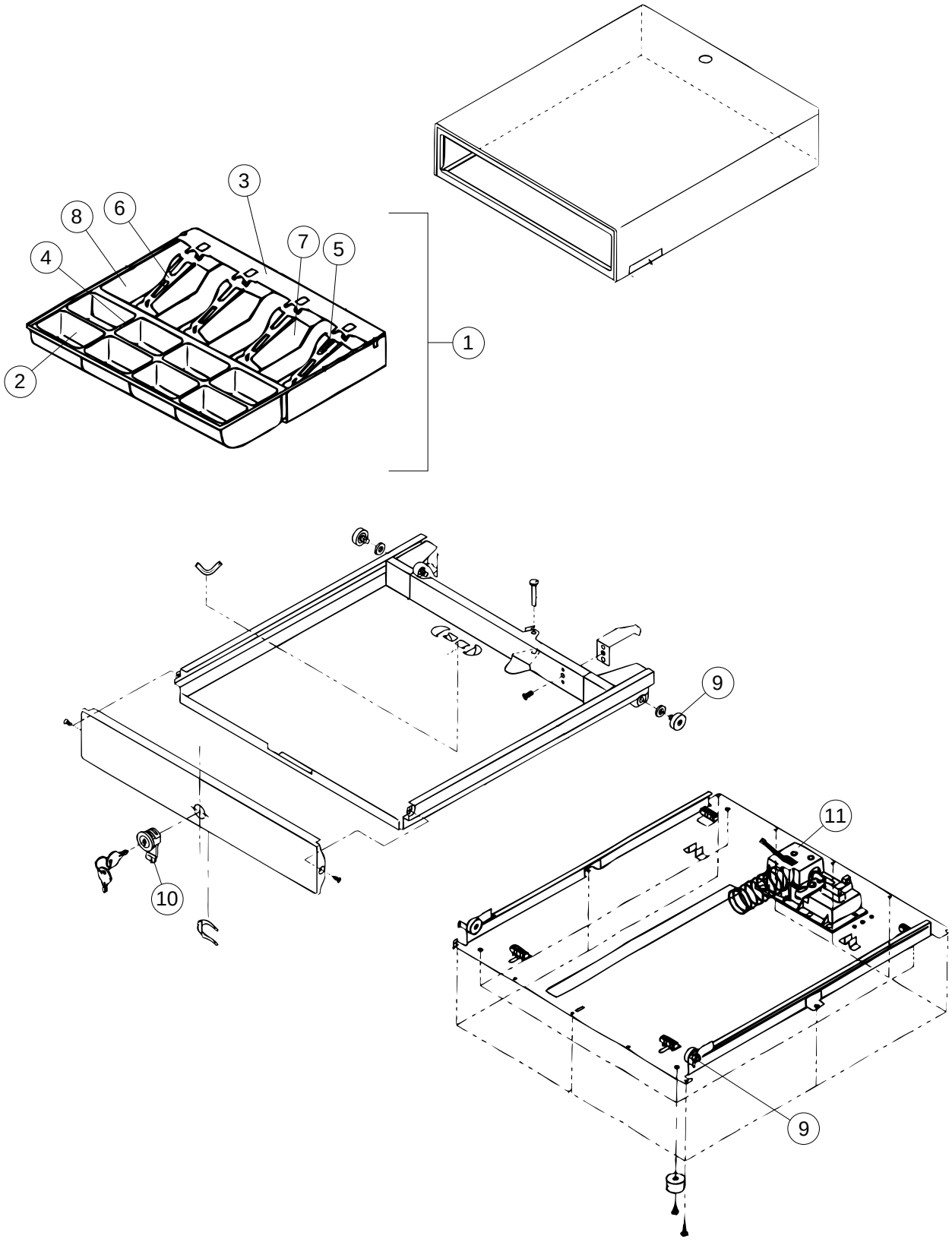




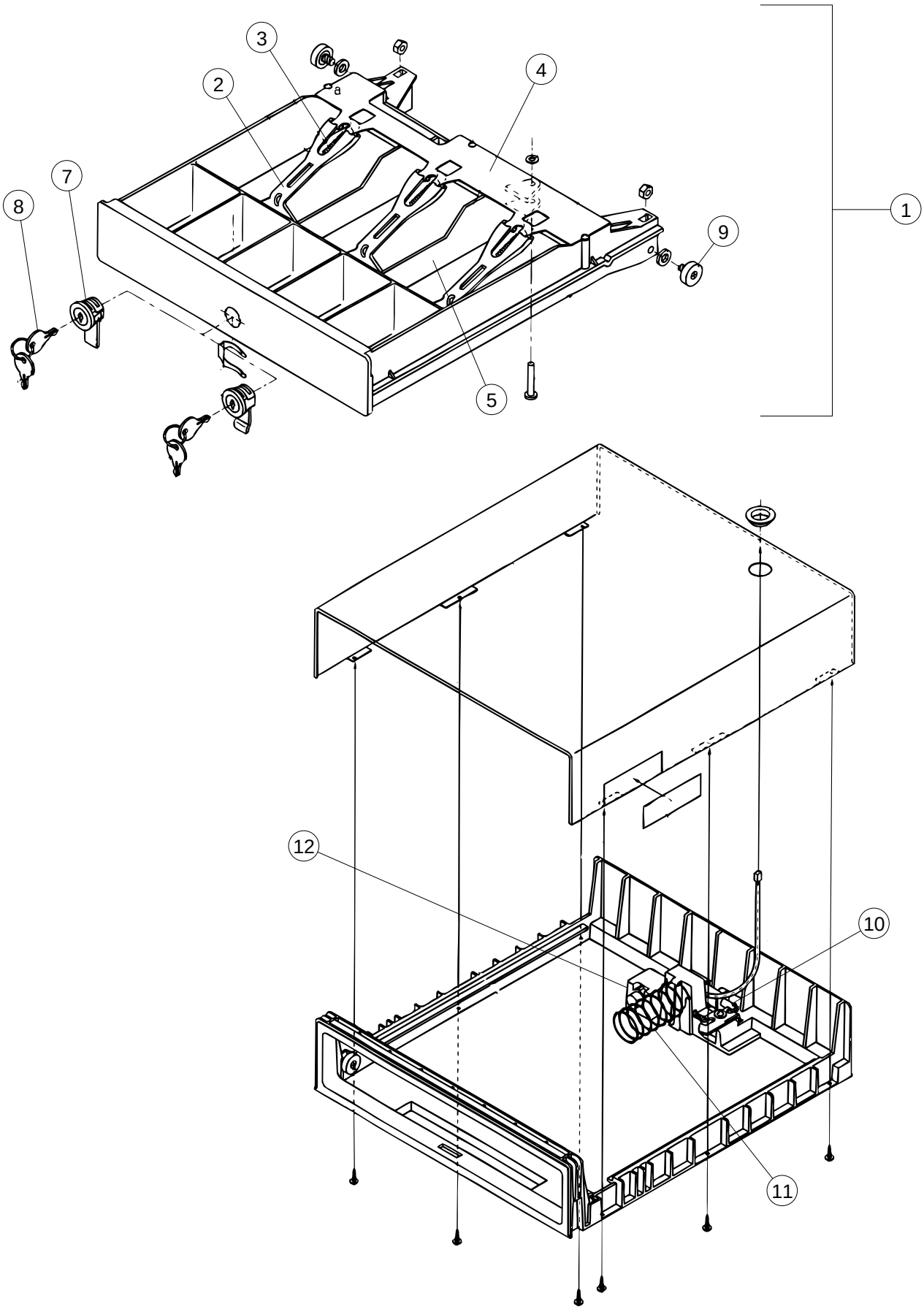
Item	Code No.	Parts Name	Specification	Version	Q	R
	14. DRAWER					
	14-1. DL-1320 (U.S.)					
	6247 6497	Drawer unit	E440386*3		1	C
1	6193 3140	Bill/Coin case ass'y	E240112*2		0	C
2	6221 4902	Bill holder	ZD18931		4	A
3	6246 5220	Bill holder spring	E412160-1		4	A
4	6246 6571	Bill holder fixing plate	E311873-1		1	C
5	6246 6585	Partition plate	E340010-5		3	B
6	6246 8510	Coin case	E340117-2		1	B
7	6246 4960	Cylinder lock ass'y	E311950*1		1	B
8	6246 5320	Cylinder key	E412059-1		2	B
9	5500 0878	Roller	DR-19B2		4	A
10	5500 0934	Solenoid ass'y	STC-06UB-102		1	A
	5580 1461	Lock spring	ZD03441-A		1	B
	6246 4940	Hook lever	E311876-1		1	B
	6246 5020	Hook lever shaft	E412071-1		1	B
11	6246 6522	Push spring	E412137-1		1	B
12	6246 6557	Damper rubber	E440023-1		1	C

DL-2762

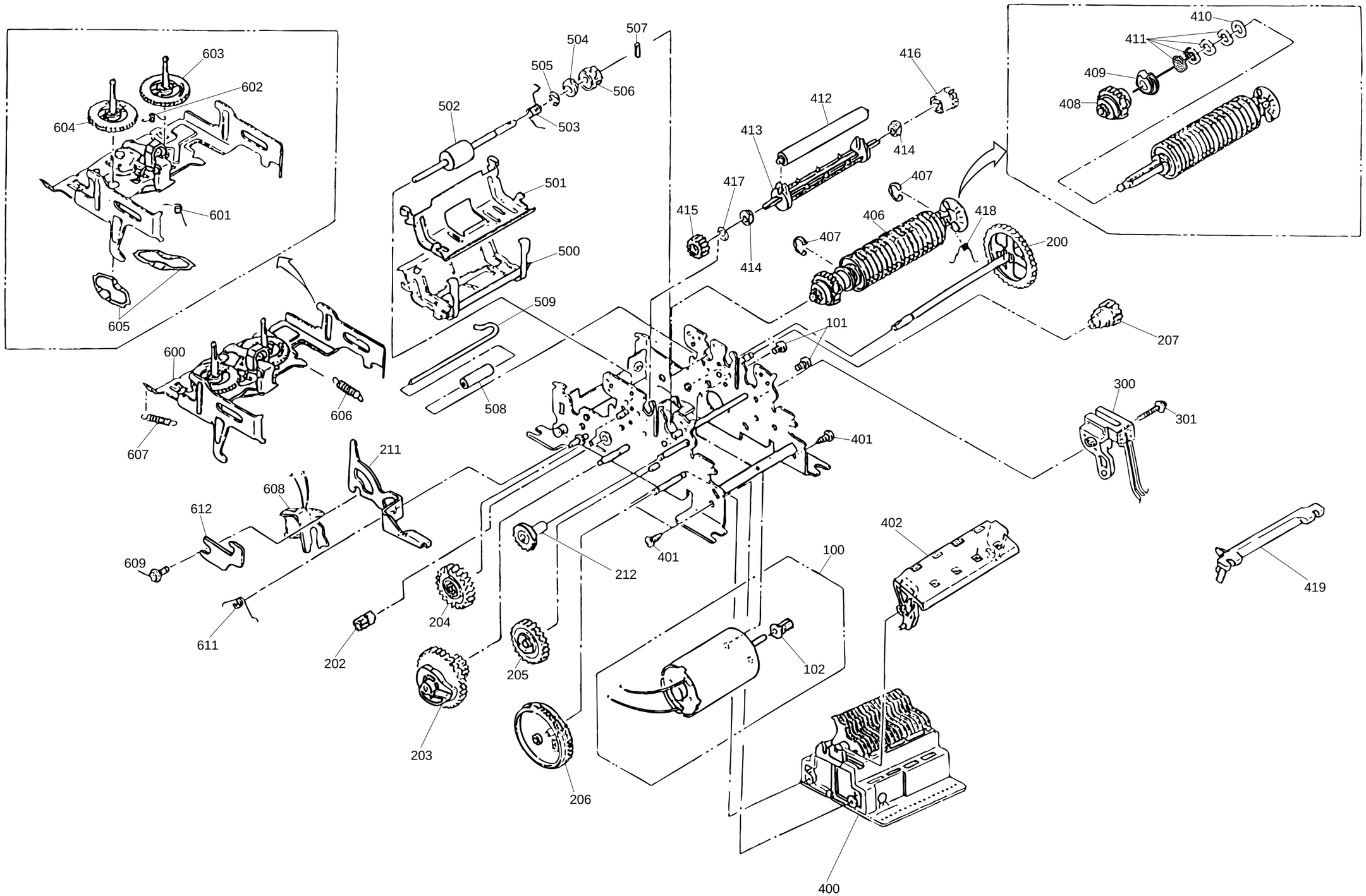


Item	Code No.	Parts Name	Specification	Version	Q	R
14-2. DL-2762 (Canada, other countries)						
	6247 6448	Drawer unit	E440128A*13		1	C
1	6192 7953	Bill/Coin case ass'y	E140034*3		1	C
2	6247 3935	Coin case	E140058-1		1	C
3	6246 5230	Bill holder fixing plate	E211620-1		1	C
4	6247 3949	Coin separater	E340173-1		6	B
5	6246 5220	Bill holder spring	E412160-1		4	A
6	6221 4902	Bill holder	ZD18931		4	A
7	6221 4911	Partition plate	ZD43652		3	C
8	6247 4964	Bill case	E140056A-1		1	C
9	5800 0043	Roller	DR-19B-1.0		4	A
10	6221 4900	Cylinder lock	ZD20025		1	B
11	6192 6315	Lock ass'y	E211680*3		1	A
	3000 7266	Solenoid ass'y	STC-08A-102T		1	A
	5580 1461	Lock spring	ZD03441-A		1	C
	6246 4940	Hook lever	E311876-1		1	C
	6246 5010	Push spring	E412069-1		1	C
	6246 5020	Hook lever shaft	E412071-1		1	C
	6246 6865	Lock fixing stand	E211622A-1		1	C

DL-1832



Item	Code No.	Parts Name	Specification	Version	Q	R
14-3. DL-1832 (Europe, other countries)						
	6247 6504	Drawer unit	E440386*4		1	C
1	6193 3161	Bill/Coin case ass'y	E240112*5		1	C
2	6221 4902	Bill holder	ZD18931		3	A
3	6246 5220	Bill holder spring	E412160-1		3	A
4	6246 6578	Bill holder fixing plate	E311937-1		1	C
5	6246 6585	Partition plate	E340010-5		2	B
6	6246 8510	Coin case	E340117-2		1	C
7	6246 4960	Cylinder lock	E311950*1		1	B
8	6246 5320	Cylinder key	E412059-1		2	B
9	5500 0878	Roller	DR-19B2		4	A
10	5500 0934	Solenoid ass'y	STC-06UB-102		1	A
	5580 1461	Lock spring	ZD03441-A		1	C
	6246 4940	Hook lever	E311876-1		1	C
	6246 5020	Hook lever shaft	E412071-1		1	C
11	6246 6522	Push spring	E412137-1		1	C
12	6246 6557	Damper rubber	E440023-1		1	C



EXPLODED DIAGRAM FOR M-450R

PARTS LIST (M405R)

Item	Code No.	Parts Name	Specification	Version	Q	R
	DRIVE MECHANISM COMPONENTS					
100	1908 5585	Motor ass'y	C770052000		1	A
101	1903 0638	C.B. screw	B010350511		2	X
102	1908 5586	First reduction gear	C770051010		1	C
	TRANSMISSION MECHANISM COMPONENTS					
200	1908 7302	Second reduction gear	C769101000		1	C
202	1903 2606	Third reduction gear	C756101020		1	C
203	1907 6818	Cam gear	C761101040		1	C
204	1902 5617	Print transmission gear	C405104010		1	C
205	1903 2602	Intermittent transmission gear	C753101070		1	C
206	1903 2609	Intermittent gear	C756101050		1	C
207	1903 2610	Paper feeding second transmission gear	C756101060		1	C
211	1908 7303	Ribbon feed driving lever	C769110010		1	C
212	1903 2611	Selective transmission gear	C756101070		1	C
	DETECTING MECHANISN COMPONENTS					
300	1908 7018	Timing signal detector ass'y	C769151000		1	B
301	1908 3468	C.P.(P). screw	B041050911		1	X
	PRINTING MECHANISM COMPONENTS					
400	1908 5587	Charactor selective magnet unit	C774201000		1	C
401	1903 0627	C.T.B. screw	B013001711		2	X
402	1908 7305	Reset lever ass'y	C769204000		1	C
406	1908 5590	Print wheel set	M466009280		1	A
407	1903 0793	Retaining ring	B150350211		2	X
408	1903 2612	Selective gear	C756205010		1	C
409	1903 2186	Print wheel shaft holder	C755211010		1	C
410	1903 0767	Plain washer	B100154712		1	X
411	1903 0777	Leaf spring	B101252590		4	X
412	1908 5588	Platen ass'y C	C756210000		1	C
413	1903 1072	Platen holder ass'y	C750212000		1	C
414	1902 5660	Crank shaft holder	C505227020		2	C
415	1908 7307	Printing gear	C769210030		1	C
416	1903 2614	Paper feeding first transmission gear	C756206030		1	C
417	1908 7600	Leaf spring	B101250590		1	X
418	1902 5628	Slit mask spring B	C405204060		1	C
419	1903 2619	Print wheel guide C	C757203010		1	C
	PAPER FEEDING MECHANISM COMPONENTS					
500	1908 4333	Outer paper guide ass'y	C756251000		1	X
501	1908 4334	Inner paper guide	C756251020		1	X
502	1902 5865	Paper feeding roller ass'y	C408254000		1	C
503	1902 5658	Paper feeding roller shaft spring	C501253010		1	C
504	1902 5866	Paper feeding shaft holder B	C408254020		1	C
505	1903 0714	Retaining ring	B150350111		1	X
506	1902 5661	Paper feeding gear	C505252030		1	C
507	1902 5666	Spring pin	B130150116		1	X
508	1903 2616	Paper holding roller	C756208010		1	X
509	1903 2617	Paper holding spring	C756208020		1	C
	INKING MECHANISM COMPONENTS					
600	1908 7308	Ribbon unit	C769351000		1	B
601	1902 5606	Ribbon detecting lever spring	C401351040		1	C
602	1902 5605	Ribbon feeding pawl spring	C401351020		1	C
603	1902 5847	Spool gear T	C405359030		1	C
604	1902 5848	Spool gear S	C405359040		1	C
605	1902 5609	Spool gear breake spring	C401351070		1	C

Item	Code No.	Parts Name	Specification	Version	Q	R
606	1903 1077	Ribbon shift spring	C750353010		1	C
607	1902 5851	Ribbon feeding lever spring	C405361010		1	C
608	1903 1123	Ribbon shift magnet ass'y	C405355001		1	X
609	1903 0643	Cup screw	B040302311		1	X
611	1902 5611	Shift lever spring	C401358010		1	C
612	1908 7651	Ribbon frame stopper	C757354010		1	C

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